S.N. 10/014848


```
=> file reg
FILE 'REGISTRY' ENTERED AT 13:27:22 ON 18 DEC 2003
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STRUCTURE FILE UPDATES:   17 DEC 2003  HIGHEST RN 627482-61-5
DICTIONARY FILE UPDATES:  17 DEC 2003  HIGHEST RN 627482-61-5

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FILE COVERS 1907 - 18 Dec 2003  VOL 139 ISS 25
FILE LAST UPDATED: 17 Dec 2003  (20031217/ED)

  This file contains CAS Registry Numbers for easy and accurate
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=> file japio
FILE 'JAPIO' ENTERED AT 13:27:33 ON 18 DEC 2003
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KOROMA  EIC1700
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NP1

FILE LAST UPDATED: 8 DEC 2003 <20031208/UP>
FILE COVERS APR 1973 TO AUGUST 29, 2003

<<< GRAPHIC IMAGES AVAILABLE >>>

=> file jicst
FILE 'JICST-EPLUS' ENTERED AT 13:27:39 ON 18 DEC 2003

FILE COVERS 1985 TO 15 DEC 2003 (20031215/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

=> file wpix
FILE 'WPIX' ENTERED AT 13:27:43 ON 18 DEC 2003

FILE LAST UPDATED: 16 DEC 2003 <20031216/UP>
MOST RECENT DERWENT UPDATE: 200381 <200381/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> NEW WEEKLY SDI FREQUENCY AVAILABLE --> see NEWS <<<

>>> SLART (Simultaneous Left and Right Truncation) is now
available in the /ABEX field. An additional search field
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=> file compendex
FILE 'COMPENDEX' ENTERED AT 13:27:53 ON 18 DEC 2003

FILE LAST UPDATED: 15 DEC 2003 <20031215/UP>
FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX >>>

```
=> d que
L7         44249 SEA FILE=CAPLUS ABB=ON  PLU=ON  ACTIVATED(4A)CARBON
L8        127661 SEA FILE=CAPLUS ABB=ON  PLU=ON  METAL(4A)OXIDE
L9        222881 SEA FILE=CAPLUS ABB=ON  PLU=ON  OXIDE?(4A)(CA OR CALCIUM OR MG
                 OR MAGNESIUM OR BA OR BARIUM)
L36       133046 SEA FILE=WPIX ABB=ON  PLU=ON  (L7 OR L8 OR L9)
L37          172 SEA FILE=WPIX ABB=ON  PLU=ON  L36 AND (H2S OR HYDROGEN
                 SULFIDE) AND (AQ OR AQUEOUS OR MOIST? OR WATER?) AND (VAPOR?
                 OR GAS?) AND (REMOV? OR DEODOR?)
L38           26 SEA FILE=WPIX ABB=ON  PLU=ON  L37 AND (DEODOR? OR SMELL? OR
                 SCENT OR ODOR?)
L39            4 SEA FILE=COMPENDEX ABB=ON  PLU=ON  L37 AND (DEODOR? OR SMELL?
                 OR SCENT OR ODOR?)
L40           14 SEA FILE=JAPIO ABB=ON  PLU=ON  L37 AND (DEODOR? OR SMELL? OR
                 SCENT OR ODOR?)
L41           21 SEA FILE=JICST-EPLUS ABB=ON  PLU=ON  L37 AND (DEODOR? OR
                 SMELL? OR SCENT OR ODOR?)
L47            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7440-44-0/RN
L48       269591 SEA FILE=CAPLUS ABB=ON  PLU=ON  L47
L49       281843 SEA FILE=CAPLUS ABB=ON  PLU=ON  L7 OR L48
L50            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  1309-48-4/RN
L51        84658 SEA FILE=CAPLUS ABB=ON  PLU=ON  L50
L52            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  1305-78-8/RN
L53        48675 SEA FILE=CAPLUS ABB=ON  PLU=ON  L52
L54            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  1304-28-5/RN
L55        18748 SEA FILE=CAPLUS ABB=ON  PLU=ON  L54
L56       374868 SEA FILE=CAPLUS ABB=ON  PLU=ON  L55 OR L53 OR L51 OR L8 OR L9
L57            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7783-06-4/RN
L58        46151 SEA FILE=CAPLUS ABB=ON  PLU=ON  L57
L59        95766 SEA FILE=CAPLUS ABB=ON  PLU=ON  L58 OR H2S OR HYDROGEN SULFIDE

L63          137 SEA FILE=CAPLUS ABB=ON  PLU=ON  L49 AND L56 AND L59
L64           49 SEA FILE=CAPLUS ABB=ON  PLU=ON  L63 AND (WATER OR AQ OR
                 AQUEOUS OR MOISTURE)
L65           13 SEA FILE=CAPLUS ABB=ON  PLU=ON  L64 AND (DEODOR? OR (ODOR OR
                 SCENT OR SMELL)(5A)(REMOV? OR ELIMINAT?))
L66           75 DUP REM L65 L38 L39 L40 L41 (3 DUPLICATES REMOVED)


=> d ti 1-75
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, COMPENDEX, JAPIO, JICST-EPLUS, CAPLUS' -
CONTINUE? (Y)/N:y



L66  ANSWER 1 OF 75  CAPLUS  COPYRIGHT 2003 ACS on STN DUPLICATE 1
TI   Product for treating contaminated fluids and method of making and using
     the same
```

L66 ANSWER 2 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorization** of malodorous **gas** e.g. ammonia from purification tank, comprises contacting with layer of fibrous **activated carbon**, immobilized with malodorous-substance decomposing-microorganisms.

L66 ANSWER 3 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorizing** equipment for drainage treatment, uses cartridge type desulfurizing device filled with desulfurizing agent to **remove hydrogen sulfide** from **gas** to be treated.

L66 ANSWER 4 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI Gel type **deodorization** agent for use in cold environments and its production

L66 ANSWER 5 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Activated carbon** matrix, used for **removing odorous** compounds from **gas**, contains **activated carbon** and **metal oxide**, e.g. **magnesium oxide**, which is uniformly dispersed in the **activated carbon.**

L66 ANSWER 6 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI System for purifying supply **water** of unit chair for dental surgery.

L66 ANSWER 7 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI System for **removing hydrogen sulfide** and volatile organic compounds using liquid catalyst, **activated carbon** filter and **activated carbon** fiber filter.

L66 ANSWER 8 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorization** of malodorous **gas** involves adding hydrogen peroxide **aqueous** solution intermittently to **activated carbon.**

L66 ANSWER 9 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorization** of **odor** component generated form sewage works, sludge disposal field and fertilizer factory, involves contacting **gas** containing **odor** component with wet honeycomb **activated carbon.**

L66 ANSWER 10 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Odor** release prevention method, for reclaimed ground of waste material, involves spraying **water** slurry which adds binder to mixture of **activated carbon** powder and slaked lime powder.

L66 ANSWER 11 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Biologically-**deodorizing** apparatus for sewage treatment, having

box-like frame units that can be easily constructed in a size related to the **gas** to be treated and space where it is to be installed.

L66 ANSWER 12 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
TI Catalytic oxidation of **gaseous** reduced sulfur compounds using coal fly ash.

L66 ANSWER 13 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Gas**-liquid scrubber system for **removing** contaminants from **gas** stream, has tower vessel, liquid recirculation system, mechanism for populating media with microorganisms and mechanism for maintaining pH of recirculating liquid.

L66 ANSWER 14 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Manufacturing method of tube-type immobilized biomedia for treating sewage/wastewater and **removing odor gas** and biomedia thereof.

L66 ANSWER 15 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Floating media having biomembrane for **deodorizing.**

L66 ANSWER 16 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
TI **Removal** and decomposition of malodorants by using titanium dioxide photocatalyst supported on fiber **activated carbon.**

L66 ANSWER 17 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Development of high-activity macroporous **calcium oxide** desulfurizing agents. (Steel Industry Foundation for the Adv. of Environ. Technol. S).

L66 ANSWER 18 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Deodorization** agent composition and **deodorant** product

L66 ANSWER 19 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorization** of malodors produced from sewage and sludge - involves using microbial-impregnated honey-comb-type column supplied with **aqueous** medium.

L66 ANSWER 20 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorizing** apparatus for e.g. sewage treatment, human waste process, comprises tower filled with microorganism and compact carrier of fibrous **activated carbon.**

L66 ANSWER 21 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorizing** method of sulfur containing malodorous **gas** generated by sewage treatment, involves using compact containing fibrous **activated carbon** and **moisture.**

L66 ANSWER 22 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI Apparatus for **deodorization** of odorous gases by wet oxidation with ozone

L66 ANSWER 23 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI Apparatus and method for **deodorization** of odorous gases by using ozone

L66 ANSWER 24 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Ecotechnology. Ozone catalytic **deodorizing** equipment.

L66 ANSWER 25 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Offensive **Odor** from Sewage Treatment Plant & Application of Packed Column Type Biological **Deodorizing** System.

L66 ANSWER 26 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Biodeodorization System of Packed Column Type.

L66 ANSWER 27 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Environmental Technology. High-performance Biological **Deodorizing** Technology.

L66 ANSWER 28 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Biotechnology and **Deodorization.**

L66 ANSWER 29 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI The Characteristics and Applications of Pore-Size-Controlled Granular **Activated Carbon.**

L66 ANSWER 30 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Biological **deodorization** method utilizing special PVA carrier as a packing material.

L66 ANSWER 31 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Titanium oxide particles useful for pigments, catalysts, catalyst supports and adsorbents, also as **deodorants** - comprises substrate having supported zinc oxy cpd. or combination of zinc oxy cpd. and silicon oxy cpd..

L66 ANSWER 32 OF 75 JAPIO (C) 2003 JPO on STN
TI METHOD FOR **DEODORIZING** MALODOROUS **GAS** CONTAINING AMMONIA AND **HYDROGEN SULFIDE**

L66 ANSWER 33 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN DUPLICATE 2
TI Treatment of exhaust **gases** from a night soil treatment plant by a combined **deodorization** system of **activated carbon** fabric reactor and peat biofilter inoculated with Thiobacillus thioparus DW44.

L66 ANSWER 34 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI A New Biological Deodrization Device Using Dried Activated Sludge.

L66 ANSWER 35 OF 75 JAPIO (C) 2003 JPO on STN
TI AIR CLEANING MATERIAL AND PRODUCTION OF THE SAME

L66 ANSWER 36 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORANT**

L66 ANSWER 37 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Special issue : a case of offensive **odor** countermeasure by treatment method.Actual example of offensive **odor removal** utilizing biofilm adsorbent.

L66 ANSWER 38 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI **Deodorization** of Malodorous **Gas** from Municipal Wastewater Treatment Plant by Using Immobilized Microbes.

L66 ANSWER 39 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Deodorization** of industrial and domestic air

L66 ANSWER 40 OF 75 JAPIO (C) 2003 JPO on STN
TI ADSORBENT COMPOSITION

L66 ANSWER 41 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Analysis and identification of **odorous** compounds for reuse of treated wastewater.

L66 ANSWER 42 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI **Deodorization** of **odor** of sewage-treatment plant by immobilized microorganism.

L66 ANSWER 43 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI **Deodorization** of foul **gas** from sewage treatment plants by packed tower type bio **deodorizer.**

L66 ANSWER 44 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORANT**, **DEODORIZING** RESIN COMPOSITION AND **DEODORIZING** PRODUCT

L66 ANSWER 45 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Compact biological **deodorization** equipment, BIOFUS.

L66 ANSWER 46 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Development of a new bioreactor system for **deodorization** using immobilized living microbes.

L66 ANSWER 47 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorising** method using photocatalyst - comprising scattering cpd. to be oxidised and mixture of titanium and manganese oxide(s) by UV.

L66 ANSWER 48 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
TI White **deodorants** for treatment of indoor air

L66 ANSWER 49 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Deodorants** for air

L66 ANSWER 50 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

TI Treatment of waste **water** from developing photographic plate - by heating, **vaporising** and concentrating with e.g. iron, zinc, nickel, etc..

L66 ANSWER 51 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Actual conditions of **odor** emission and its **deodorizing** plans in small scale manufacturing factories of various rubber goods.

L66 ANSWER 52 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Deodorants** containing metal phthalocyanines

L66 ANSWER 53 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Water**-containing particle compositions and their manufacture

L66 ANSWER 54 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorising gas** containing phosphorus cpds. - by contact with sodium hypochlorite solution containing available chlorine.

L66 ANSWER 55 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Non-diluted raw sewage **deodorisation** - by biologically oxidising, nitrifying and denitrifying.

L66 ANSWER 56 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Study on method of **deodorization** by **activated carbon.**

L66 ANSWER 57 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Fe (II) - ascorbic acid composite materials.

L66 ANSWER 58 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
TI Development of **hydrogen sulfide gas** sensor for **deodorization.**

L66 ANSWER 59 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
TI CONTROL OF AIR EMISSIONS FROM KRAFT RECOVERY FURNACES BY WET SCRUBBING.

L66 ANSWER 60 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI Regeneration of spent **deodorizing** catalyst for air from sewage and night soil treatment

L66 ANSWER 61 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORIZING** METHOD

L66 ANSWER 62 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Dry **deodorisation** appts. - comprises e.g. alkali metal on carrier, ozoniser, hydrogen bromide on carrier, oxidising agent and appts. for passing **gas** through system.

L66 ANSWER 63 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Deodorisation** of **gases** containing nitrogen and sulphur cpds. - by contact with active carbon carrying involatile acid, bromine, and opt- iodine (cpd.).

L66 ANSWER 64 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI **Deodorization** of waste gases

L66 ANSWER 65 OF 75 JAPIO (C) 2003 JPO on STN
TI OZONE DECOLORATION AND **DEODORIZATION** METHOD

L66 ANSWER 66 OF 75 JAPIO (C) 2003 JPO on STN
TI TREATMENT OF OFFENSIVE **ODOR GAS**

L66 ANSWER 67 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI **Removing odorous** components from **gases** - by passing through system containing wet-**activated carbon** and active oxygen.

L66 ANSWER 68 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORIZING** APPARATUS FOR OZONE

L66 ANSWER 69 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Ozone-oxidation **deodorising** appts. - in which **gas** to be treated is first admixed with air of specified relative humidity.

L66 ANSWER 70 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
TI Air filters containing **activated carbon** and metal catalysts

L66 ANSWER 71 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
TI Impregnated non-woven textile filter - prepared by mixing **deodorant** with polyvinyl alcohol and adding glyoxal.

L66 ANSWER 72 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORANT** AND **DEODORIZING** METHOD

L66 ANSWER 73 OF 75 JAPIO (C) 2003 JPO on STN
TI **DEODORANT** AND **DEODORIZING** METHOD

L66 ANSWER 74 OF 75 JAPIO (C) 2003 JPO on STN
TI HONEYCOMB **DEODORIZATION**

L66 ANSWER 75 OF 75 JAPIO (C) 2003 JPO on STN
TI BIO-**DEODORIZATION** APPARATUS

=> d all 1-75 l66
YOU HAVE REQUESTED DATA FROM FILE 'WPIX, COMPENDEX, JAPIO, JICST-EPLUS, CAPLUS' -
CONTINUE? (Y)/N:y

L66 ANSWER 1 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
AN 2003:97363 CAPLUS
DN 138:157989

KOROMA EIC1700

ED Entered STN: 07 Feb 2003
TI Product for treating contaminated fluids and method of making and using the same
IN Scranton, Delbert C.; Braga, Thomas G.
PA M-I L.L.C., USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C02F001-68
ICS B01D047-00; B01D053-02; B01D052-26; B01J008-00; B01J020-00; B01J020-02; C01B017-16; C01B031-20; C01B007-00; C01C003-00; B28C007-04
CC 59-4 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 60, 62
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003010096	A2	20030206	WO 2002-US23345	20020722
WO 2003010096	A3	20030522		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003085170	A1	20030508	US 2001-912199	20010724
US 6578715	B2	20030617		
PRAI US 2001-912199	A	20010724		

AB A product, capable of treating contaminated fluids, preferably gases, is disclosed. The product contains a carrier, an activated **metal oxide**, an odor counteractant, a carrier for the odor counteractant, and an agent which limits diffusion of the odor counteractant. The product removes sulfur contaminants, such as **hydrogen sulfide** and mercaptans, while also reducing and/or neutralizing other common odor causing compds. in fluids, preferably gases. Methods of making and using the product are also disclosed. The present invention relates to a product for use in controlling and treating odiferous contaminants. In particular, the present invention is used for treating sewage gases emanating from a sewer or similar structure. The product is comprised of a carrier, preferably mulch, and a **metal oxide**, preferably an activated **metal oxide**, and it is further preferred for such product to include an odor counteractant, a carrier for the odor counteractant, and an agent, which limits the diffusion of the odor counteractant.

ST sulfur removal sewage gas **deodorization metal oxide** coated carrier; **hydrogen sulfide**

mercaptan removal sewage gas **deodorization metal oxide**

IT Alkali metal compounds
Esters, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**deodorizing** agent; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(inorg., **deodorizing** agent; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Bark
Leaf
Mulches
Soils
Straw
Wood
(**metal oxide** carrier; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Clays, uses
Limestone, uses
Shale
Volcanic rocks
RL: NUU (Other use, unclassified); USES (Uses)
(**metal oxide** carrier; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(organic, **deodorizing** agent; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Ceramics
(porous, porous; **metal oxide** carrier; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT **Deodorants**
Deodorization
Odor and Odorous substances
(product for **removing** sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Thiols (organic), processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical

process); REM (Removal or disposal); PROC (Process)
(product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Essential oils
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Essential oils
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)
(sage, Salvia officinalis, Clary sage oil; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Waste gases
(sewage gases; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Glycols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(used to saturate carrier material; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT Wastewater treatment
(waste gases from; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT 1314-13-2, Zinc oxide, reactions 1332-37-2, Iron oxide, reactions 11113-66-9, Iron hydroxide 20427-58-1, Zinc hydroxide
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(activated with copper oxides or manganese oxides; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT 1306-19-0, Cadmium oxide, uses 1313-99-1, Nickel oxide, uses 1314-08-5, Palladium oxide 1317-39-1, Cuprous oxide, uses 1332-29-2, Tin oxide 1335-25-7, Lead oxide 1344-70-3, Copper oxide 7439-96-5, Manganese, uses 7439-96-5D, Manganese, alloys 7439-96-5D, Manganese, salts 7440-50-8, Copper, uses 7440-50-8D, Copper, alloys 7440-50-8D, Copper, salts 7492-68-4, Copper carbonate 11104-61-3, Cobalt oxide 11129-60-5, Manganese oxide 11129-89-8, Platinum oxide 12653-71-3, Mercury oxide 17375-37-0, Manganese carbonate 20667-12-3, Silver oxide 39403-39-9, Gold oxide
RL: MOA (Modifier or additive use); USES (Uses)
(activator; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

IT **7440-44-0**, Carbon, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**metal oxide** carrier; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)
IT 9003-53-6, Styrofoam
RL: NUU (Other use, unclassified); USES (Uses)
(porous; **metal oxide** carrier; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)
IT 7704-34-9D, Sulfur, compds. **7783-06-4**, **Hydrogen sulfide**, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); REM (Removal or disposal); PROC (Process)
(product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)
IT 7732-18-5, **Water**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(used to saturate carrier material; product for removing sulfur contaminants such as **H2S** and mercaptans from sewage gases using **metal oxide**-coated carrier and **deodorizers**)

L66 ANSWER 2 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2003-818193 [77] WPIX
DNC C2003-228995
TI **Deodorization** of malodorous **gas** e.g. ammonia from purification tank, comprises contacting with layer of fibrous **activated carbon**, immobilized with malodorous-substance decomposing-microorganisms.
DC D15 D16 D22
PA (NIRA) UNITIKA LTD
CYC 1
PI JP 2003144839 A 20030520 (200377)* 6p B01D053-38
ADT JP 2003144839 A JP 2001-348899 20011114
PRAI JP 2001-348899 20011114
IC ICM B01D053-38
ICS B01D053-34; B01D053-77; C12M001-00; C12M001-40; C12N001-00
AB JP2003144839 A UPAB: 20031128
NOVELTY - Malodorous **gas** (MG) is **deodorized** by contacting MG with layer (2) filled with material such as fibrous **activated carbon** (FAC) or compact containing FAC immobilized with microorganisms, which decompose malodorous-substance.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for bio-**deodorizing** apparatus comprising bio-**deodorizing** tower (1) filled with microorganisms immobilized material.
USE - For **deodorizing** malodorous **gas** such as organic acid, ammonia, sulfur, **hydrogen sulfide**, methyl mercaptan, methyl (di)sulfide, etc., generated from food-waste

treatment, daily life wastewater processing, drainage treatment, sludge-disposal, sewage treatment and purification tank.

ADVANTAGE - The malodorous **gas** is effectively **deodorized**, at high speed and low cost.

DESCRIPTION OF DRAWING(S) - The figure shows the outline of bio-**deodorizing** apparatus. (Drawing includes non-English language text).

bio-**deodorizing** tower 1

microorganisms-immobilized-material filled layer 2

sprayer 3

water-collecting unit 4

Dwg.1/4

FS CPI

FA AB; GI

MC CPI: D04-A; D04-B; D04-B06; D05-H10

L66 ANSWER 3 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 2003-771362 [73] WPIX

DNC C2003-212389

TI **Deodorizing** equipment for drainage treatment, uses cartridge type desulfurizing device filled with desulfurizing agent to **remove hydrogen sulfide** from **gas** to be treated.

DC D15 D22 E36

PA (EBAR) EBARA CORP

CYC 1

PI JP 2003144836 A 20030520 (200373)* 6p B01D053-38

ADT JP 2003144836 A JP 2001-340580 20011106

PRAI JP 2001-340580 20011106

IC ICM B01D053-38

ICS B01D053-34; B01D053-52; B01D053-81

AB JP2003144836 A UPAB: 20031112

NOVELTY - A cartridge type desulfurizing device filled with a desulfurizing agent is connected in a flow path through which a portion or all the **hydrogen sulfide** containing **gas** to be treated is introduced into the **deodorizing** equipment. The **hydrogen sulfide** included in the **gas** to be treated is **removed** by the desulfurizing agent filled in the desulfurizing device.

USE - For **deodorizing hydrogen sulfide** content malodorous **gas** generated during the anaerobic treatment of sludge deposits such as sewage, human wastes and industrial waste **water.**

ADVANTAGE - The generation of sulfur scale in the chemical solution washing equipment can be prevented by **removing hydrogen sulfide** and the **deodorizing** function of a new **deodorizing** device other than the existing ones can be improved by performing a peak cut of **hydrogen sulfide.** The chemical pouring control is easy and the compatibility for **deodorizing** and desulfurization in a small scale can be achieved in a site of incidence. A countermeasure of seasonal variation can be made more advantageous with installation then the extension of an existing

installation.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a **deodorizing** equipment. (Drawing includes non-English language text).

Dwg.3/5

FS CPI

FA AB; GI; DCN

MC CPI: D04-A01F; D04-A02; D04-B07D; D09-B; E11-Q02; E31-F02

L66 ANSWER 4 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:563678 CAPLUS

DN 137:113511

ED Entered STN: 30 Jul 2002

TI Gel type **deodorization** agent for use in cold environments and its production

IN Kaneko, Toshihiko; Ueda, Hiroshi; Narisada, Naoyuki

PA S. T. Chemical Co. Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM A61L009-01
ICS B01J020-04; B01J020-06; B01J020-10; B01J020-16; B01J020-20; B01J020-30; C08J003-075; C08K003-00; C08K005-00; C08L001-28

CC 59-6 (Air Pollution and Industrial Hygiene)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002209988	A2	20020730	JP 2001-11148	20010119
PRAI	JP 2001-11148		20010119		

AB The gel type **deodorization** agent comprises a hydroxyalkyl etherified polysaccharide type gelling agent, a polar solvent or its mixture with **water**, and an adsorbent. The hydroxyalkyl etherified polysaccharide may be hydroxyethyl cellulose, hydroxypropyl cellulose, ethylhydroxyethyl cellulose, and/or hydroxypopylated guar gum: the polar solvent may be alc. or glycol ether type solvents: and the adsorbent may be an **activated carbon**, charcoal, bamboo charcoal, silica gel, a zeolite, an aluminosilicate, Zn oxide, Zr phosphate, Al tripolyphosphate, Al2O3, Fe **oxide**, **Mg oxide**, **Ca oxide**, Ti **oxide**, and/or Zr oxide. The **deodorization** agent is produced by mixing a 1st solution produced by dispersing a hydroxyalkyl etherified polysaccharide type gelling agent in a polar solvent and a 2nd solution produced by dispersing an adsorbent in a mixed solvent containing a polar solvent and **water** and gelling the mixture Without being frozen, the gel type **deodorization** agent is excellent in **deodorization** in cold environments, e.g. in a cold site, a low temperature storage chamber such as a refrigerator and is capable of showing the terminal stage.

ST gel **deodorization** agent hydroxyalkyl etherified polysaccharide; cold environment nonfreezing gel **deodorization** agent

IT Aluminosilicates, uses

Charcoal
RL: TEM (Technical or engineered material use); USES (Uses)
(adsorbent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Zeolites (synthetic), uses
RL: TEM (Technical or engineered material use); USES (Uses)
(adsorbents, **deodorization** agent containing; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Air purification
(**deodorization**; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, polar solvent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT **Deodorants**
(gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Adsorbents
(gel type **deodorization** agent containing; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol, polar solvent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Polysaccharides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(hydroxyalkyl etherified, gelling agent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polar solvent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT **7440-44-0**, **Carbon**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**activated**, adsorbent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

IT 7664-41-7, Ammonia, processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(adsorbent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its

production)
IT **1305-78-8**, **Calcium oxide**, uses
1309-48-4, **Magnesium oxide**, uses 1314-13-2, Zinc oxide, uses 1314-23-4, Zirconium oxide, uses 1332-37-2, Iron oxide, uses 1344-28-1, Aluminum oxide, uses 13463-67-7, Titanium oxide, uses 13765-95-2, Zirconium phosphate 29196-72-3, Aluminum tripolyphosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(adsorbent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)
IT **7783-06-4**, **Hydrogen sulfide**, processes
RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
(gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)
IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(gel, adsorbent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)
IT 9000-30-0D, Guar gum, hydroxypropylated 9004-58-4, Ethylhydroxyethyl cellulose 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl cellulose
RL: TEM (Technical or engineered material use); USES (Uses)
(gelling agent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)
IT 64-17-5, Ethanol, uses 56539-66-3, 3-Methoxy-3-methyl-1-butanol
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent for gelling agent; gel type **deodorant** containing hydroxyalkyl etherified polysaccharide type gelling agent, polar solvent, and adsorbent and its production)

L66 ANSWER 5 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-500521 [53] WPIX
DNC C2002-141798
TI **Activated carbon** matrix, used for **removing** **odorous** compounds from **gas**, contains **activated carbon** and **metal oxide**, e.g. **magnesium oxide**, which is uniformly dispersed in the **activated carbon.**
DC D22 E33 E36 J01
IN GRAHAM, J R; YUAN, C J
PA (GRAH-I) GRAHAM J R; (YUAN-I) YUAN C J; (NING-N) NINGXIA GUANGHUA ACTIVATED CARBON CO LTD; (USFI) US FILTER CORP
CYC 101
PI WO 2002048032 A2 20020620 (200253)* EN 17p C01B031-08
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZW

US 2002082168 A1 20020627 (200253) C01B031-08
AU 2002026066 A 20020624 (200267) C01B031-08
EP 1341719 A2 20030910 (200367) EN C01B031-08
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

ADT WO 2002048032 A2 WO 2001-US47641 20011211; US 2002082168 A1 Provisional US 2000-254900P 20001211, US 2001-14848 20011211; AU 2002026066 A AU 2002-26066 20011211; EP 1341719 A2 EP 2001-995487 20011211, WO 2001-US47641 20011211

FDT AU 2002026066 A Based on WO 2002048032; EP 1341719 A2 Based on WO 2002048032

PRAI US 2000-254900P 20001211; US 2001-14848 20011211

IC ICM C01B031-08
ICS B01D053-02; B01D053-86; B01J020-04; B01J020-20; B01J020-30; B01J021-08; B01J021-18; C01B031-10

AB WO 200248032 A UPAB: 20020820

NOVELTY - An **activated carbon** matrix contains **activated carbon** and 3-15 weight% (weight%) of a **metal oxide.** The **metal oxide** is uniformly dispersed in the **activated carbon.**

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) A process for preparing a media for filtering **gaseous** substances. A carbon material is preoxidized to form a preoxidized carbon. The preoxidized carbon is ground and mixed with a **metal oxide** to form a carbon mixture. The carbon mixture is extruded and the extrudate is carbonized to form a porous carbonaceous mixture. The porous carbonaceous mixture is then activated.

(2) A method of forming an **activated carbon-metal oxide** matrix. A carbon material is preoxidized and ground. The ground carbon, **metal oxide** and coal tar pitch are mixed to form a paste. The paste is extruded, and the extrudate is carbonized to form a carbonaceous mixture. The carbonaceous mixture is activated with the steam to form an **activated carbon-metal oxide** matrix.

(3) A method for **removing** an **odorous** compound from a **gaseous** stream. An **activated carbon** -metal matrix is formed having a **hydrogen sulfide** breakthrough capacity of more than 0.3 g **H2S**/cc C. The **gaseous** stream is contacted with the matrix, and the **odorous** compound is sorbed. The **gaseous** stream is **removed** from the matrix.

(4) A method for reducing concentration of an **odorous** compound in a **gaseous** stream. The **gaseous** stream is contacted with **activated carbon** matrix. The **odorous** compound is sorbed on the matrix and a product stream having reduced concentration of the **odorous** compound is obtained. The product stream is **removed** from the matrix.

(5) A method for reducing concentration of a sulfide present in a

gaseous discharge from a waste **water** treatment system.
The **gaseous** discharge, containing volatile organic compound(s) and **hydrogen sulfide**, is contacted with the **activated carbon-metal oxide** matrix.
The sulfide is sorbed on the matrix and a product stream having a sulfide concentration of less than 0.1 ppm is obtained. The product stream is **removed** from the matrix.

(6) **Metal oxide**-carrying **activated carbon** for **removing hydrogen sulfide** from a **gas**, contains an **activated carbon-metal oxide** matrix, which is obtained by mixing 3-5 weight% of a **metal oxide** with a carbon material, carbonizing and activating the mixture.

USE - For **removing odorous** compounds from a **gaseous** stream containing volatile organic compounds like aldehydes, ketones, and acidic **gases** such as butyric acid, hydrogen chloride, **hydrogen sulfide** and sulfur dioxide (claimed). For sorbing **odors** from a variety of sources such as municipal, industrial and residential sources and for sorbing **odorous** compounds of chemical processes carried out in sewage treatment plants, refineries and pulp and paper mills.

ADVANTAGE - The **activated carbon** matrix controls **odor** in a **gaseous** stream. The matrix reduces **hydrogen sulfide** concentrations to below **odor** threshold levels by catalytically oxidizing the **hydrogen sulfide** to elemental sulfur and hence the pH of the matrix does not change during process. The matrix efficiently oxidizes mercaptans to disulfides, thus making them more adsorbable. The spent matrix is safer to handle. The matrix has an ignition temperature of about 450 deg. C, and hence is safer to handle. The bed or column packed with the matrix can be operated at any pressure and temperature below the ignition temperature of carbon.

Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: D09-B; E31-N04C; E34-B01; E34-D01; E34-D03; J01-E02B

L66 ANSWER 6 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2003-217700 [21] WPIX
DNC C2003-055352
TI System for purifying supply **water** of unit chair for dental surgery.
DC D16 J01
IN CHA, J M; YOON, G S
PA (CHAJ-I) CHA J M; (YOON-I) YOON G S
CYC 1
PI KR 2002073803 A 20020928 (200321)* 1p B01D035-02
ADT KR 2002073803 A KR 2001-13660 20010316
PRAI KR 2001-13660 20010316
IC ICM B01D035-02
AB KR2002073803 A UPAB: 20030328
NOVELTY - A system for purifying supply **water** of a unit chair

for dental surgery is provided which simultaneously purifies supply **water** used in the unit chair for dental surgery and supplies purified **water** to a **water** purifier.

DETAILED DESCRIPTION - The system for purifying supply **water** of unit chair for dental surgery comprises an **activated carbon** filter(12) and an **activated carbon** fiber filter(13) for pretreating raw **water** connected from a **water** pipe and **removing** varieties of chemical substances; an ultrafine membrane filter(21) of which pore size is about 0.001 to 0.01 micron, and which has selective filtration function so that impurities including bacteria, virus and particulate are **removed** while healthful substances such as minerals are not filtered but contained in purified **water**; a hollow fiber membrane filter(25) on which 100 billion or more holes having a size of 0.01 to 0.04 micron exist; an illite filter(26) for ionization, and which absorbs and decomposes various contaminants or toxic substances; a **water** tank(40) for storing the purified **water**; an **activated carbon**/**activated carbon** fiber filter(27) for adsorbing **odorous gases** such as **hydrogen sulfide** or ammonia contained in air or dissolved into purified **water** inside the **water** tank; an ultraviolet lamp tube(29) which is made of high quality stainless steel to sterilize microorganisms such as germs and bacteria lots of which are infected in non-judged raw **water** or underground **water**; a mixer(41) for mixing the purified and sterilized **water** with fluorine; and a fluorine tank(38) for supplying fluorine to the mixer.

Dwg.1/10

FS CPI
FA AB; GI
MC CPI: D05-H13; J01-E02; J01-E03C

L66 ANSWER 7 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2003-137480 [13] WPIX
DNC C2003-034912
TI System for **removing hydrogen sulfide** and volatile organic compounds using liquid catalyst, **activated carbon** filter and **activated carbon** fiber filter.
DC J01 T06
IN CHA, J M
PA (ENVI-N) ENVITA CO LTD
CYC 1
PI KR 2002072744 A 20020918 (200313)* 1p B01D053-86
ADT KR 2002072744 A KR 2001-12741 20010312
PRAI KR 2001-12741 20010312
IC ICM B01D053-86
AB KR2002072744 A UPAB: 20030224
NOVELTY - A system for **removing hydrogen sulfide** and volatile organic compounds using liquid catalyst and **activated carbon/activated carbon** fiber (AC/ACF) filter is provided which is easily maintained and continuously **removes hydrogen sulfide** (

H2S) and volatile organic compounds using liquid catalyst and cartridge shaped AC/ACF filter.

DETAILED DESCRIPTION - The system for **removing hydrogen sulfide** and volatile organic compounds using liquid catalyst and **activated carbon** fiber comprises **hydrogen sulfide** and VOCs (10) as a supply tank of various contaminants; a mass flow controller (11) for controlling a mass flow of the **hydrogen sulfide** and VOCs flown in; a bubble generator for generating the **hydrogen sulfide** and VOCs in bubble form; a liquid catalyst storage and collection tank (13) for storing and collecting liquid catalyst; a filter (14) for filtering the liquid catalyst using dry air generated from an air compressor; a flow meter (16) for measuring the amount of the liquid catalyst discharged through the filter; a sprayer (19) for spraying the liquid catalyst flowing through the flow meter; a demister (18) for maintaining the liquid catalyst to a certain temperature; pall ring layers (17) in which a packing of high porosity and large specific surface area to increase a **gas**-liquid contact area with the liquid catalyst sprayed through the sprayer is filled; a **moisture remover** (22) which **removes moisture** by receiving contaminants passing the pall ring layers; a multistage cartridge shaped **activated carbon/activated carbon** fiber (AC/ACF) filter (21) for filtering contaminants passing the **moisture remover**; and a fan(20) for exhausting **odor removed** air into the outside.

Dwg.1/10

FS CPI EPI
FA AB; GI
MC CPI: J01-E02D; N07-L02D
EPI: T06-B04

L66 ANSWER 8 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2003-049628 [05] WPIX
DNN N2003-039052 DNC C2003-013173
TI **Deodorization** of malodorous **gas** involves adding hydrogen peroxide **aqueous** solution intermittently to **activated carbon.**
DC D22 E36 J01 P34
PA (NIKK-N) NIKKO PLANT KK
CYC 1
PI JP 2002253650 A 20020910 (200305)* 5p A61L009-01
ADT JP 2002253650 A JP 2001-57844 20010302
PRAI JP 2001-57844 20010302
IC ICM A61L009-01
ICS A61L009-00; A61L009-16; B01D053-14; B01D053-34; B01D053-38; B01D053-48; B01D053-52; B01D053-54; B01D053-58; B01D053-72; B01D053-75; B01D053-77; B01D053-81; C01B031-08
AB JP2002253650 A UPAB: 20030121
NOVELTY - The hydrogen peroxide **aqueous** solution containing an alkali compound is added intermittently to an **activated carbon**, for **deodorizing** malodorous **gas.**

USE - For **deodorizing** malodorous **gas** comprising

odor component, such as **hydrogen sulfide**, mercaptans, sulfides, disulfides, aldehydes, fatty acids, ammonia and amines.

ADVANTAGE - The offensive **odor** component is **deodorized** efficiently for long period, by using hydrogen peroxide **aqueous** solution.

Dwg.0/0

FS CPI GMPI
FA AB; DCN
MC CPI: D09-B; E31-E; E31-N04B; J01-E02A1; J01-E02B

L66 ANSWER 9 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-448094 [48] WPIX
DNN N2002-353124 DNC C2002-128183
TI **Deodorization** of **odor** component generated form sewage works, sludge disposal field and fertilizer factory, involves contacting **gas** containing **odor** component with wet honeycomb **activated carbon.**
DC D22 J01 P43
PA (NIKK-N) NIKKO PLANT KK
CYC 1
PI JP 2002095927 A 20020402 (200248)* 8p B01D053-38
ADT JP 2002095927 A JP 2000-306047 20001005
PRAI JP 2000-220281 20000721
IC ICM B01D053-38
ICS B01D053-14; B01D053-34; B01D053-44; B01D053-48; B01D053-52; B01D053-54; B01D053-58; B01D053-75; B01D053-81; B09B003-00
ICA B01J020-20; B01J020-34
AB JP2002095927 A UPAB: 20020730

NOVELTY - A **deodorization** method involves contacting **gas** containing an **odor** component with wet honeycomb **activated carbon.**

DETAILED DESCRIPTION - A **deodorization** method involves contacting **gas** containing an **odor** component with wet honeycomb **activated carbon.** The **odor** component is **hydrogen sulfide**, mercaptan, ammonia, amine or organic acid. The honeycomb **activated carbon** carries chemical such as iodine, inorganic iodide, bromine, inorganic bromine or acid.

USE - For **deodorizing odor** component in exhaust **gas** from organic refuse process machine.

ADVANTAGE - The dispersibility of **gas** containing **odor** component in **aqueous** medium is improved hence **gas**-liquid contact efficiency is improved. The apparatus can be effectively used for a long time for **deodorization.** The combination of wet honeycomb **activated carbon** and dry honeycomb **activated carbon** enables to efficiently **deodorized gas** for a long time.

Dwg.0/0

FS CPI GMPI
FA AB
MC CPI: D09-B; J01-E02

L66 ANSWER 10 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-601692 [65] WPIX
DNN N2002-476985 DNC C2002-170205
TI **Odor** release prevention method, for reclaimed ground of waste material, involves spraying **water** slurry which adds binder to mixture of **activated carbon** powder and slaked lime powder.
DC A97 D22 J01 P43
PA (TOAK-N) TOA KOGYO KK
CYC 1
PI JP 2002059105 A 20020226 (200265)* 3p B09B001-00
ADT JP 2002059105 A JP 2000-246668 20000816
PRAI JP 2000-246668 20000816
IC ICM B09B001-00
ICA B01J020-20
AB JP2002059105 A UPAB: 20021010
NOVELTY - The method involves spraying **water** slurry, which adds binder to the mixture of **activated carbon** powder and slaked lime powder, to the reclaimed ground of waste material.
DETAILED DESCRIPTION - The mixing rates of **activated carbon** and slaked lime is 95:5-5:95. The addition ratio of the binder to the total solid content of **activated carbon** and slaked lime is 1-5%.
USE - For absorbing the **odor** generated from the reclaimed ground of waste material.
ADVANTAGE - **Removal** of harmful **gases**, **hydrogen sulfide** and mercaptan produced from industrial waste reclaimed ground, is prevented. Release of harmful **gases** from the face of overlooking slope of the surface is prevented effectively.
Dwg.0/0
FS CPI GMPI
FA AB
MC CPI: A12-W11D; D09-B; J01-E02A

L66 ANSWER 11 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-601455 [65] WPIX
DNC C2002-170132
TI Biologically-**deodorizing** apparatus for sewage treatment, having box-like frame units that can be easily constructed in a size related to the **gas** to be treated and space where it is to be installed.
DC D15 P34
IN KENJIRO, H; HONGO, K
PA (SANY) SANKYO KOGYO KK
CYC 29
PI EP 1234609 A1 20020828 (200265)* EN 39p B01D053-84
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
JP 2002239337 A 20020827 (200271) 21p B01D053-38
US 2002155593 A1 20021024 (200273) C12M001-04
US 6555364 B2 20030429 (200331) C12M001-12

SG 97188 A1 20030718 (200358) C12M001-04
ADT EP 1234609 A1 EP 2001-305092 20010612; JP 2002239337 A JP 2001-44490 20010221; US 2002155593 A1 US 2001-887814 20010622; US 6555364 B2 US 2001-887814 20010622; SG 97188 A1 SG 2001-4578 20010728
PRAI JP 2001-44490 20010221
IC ICM B01D053-38; B01D053-84; C12M001-04; C12M001-12
ICS A61L009-01; B01D053-34; B01D053-81
AB EP 1234609 A UPAB: 20021010
NOVELTY - A low cost biologically-**deodorizing** apparatus assembled with box-like frame units that can be constructed in size to fit a limited space, solving problems comprising washing by liquid chemicals and absorption of **activated carbon**, is new.
DETAILED DESCRIPTION - A biologically-**deodorizing** apparatus assembled with box-like frame units, having an inlet for malodorous **gas**, a treatment part, and an outlet in series, with a biologically **deodorizing gas** in the treatment part.
Each frame of the inlet, treatment part and outlet is composed of 1 or more rectangular hexahedron box-like frame unit constructed by connecting frame members and joints. Each inlet has a **gas** inlet opening and humidifier. The treatment part is composed of the box-like frame units containing cartridges that can be pulled out free horizontally and whose outer frames are set by several porous parallel plastic sheets at a distance from each other. The outlet has a **gas** outlet opening, where the required number of box-like frame units are connected according to type, amount and density of the **gas.** The treatment part's blow-off surfaces located upper on the **gas** channel is connected to lower located blow-in surfaces of the treatment part or outlet in an airtight condition. The open surfaces are obstructive of **gas** treating are sealed with panels. The **gas** inlet opening is connected to a source of the malodorous **gas.** The **gas** outlet opening is opened in air. The treating part nozzle headers are placed and connected to **water** supply pipes. Below the inlet, the treatment part and outlet receive plates that are placed and connected to **water** draining pipes.
USE - The apparatus is useful for **deodorizing** ammonia, **hydrogen sulfide** and inorganic sulfuric compounds evolved in sewage treatment
ADVANTAGE - The apparatus can be easily constructed in a size related to the **gas** to be treated and space where it is to be installed
DESCRIPTION OF DRAWING(S) - The drawing shows a partially cut-off perspective view of a biological **deodorizing** apparatus assembled with box-like frame units considering the case having 2 stages construction.
Dwg.1/21
FS CPI GMPI
FA AB; GI
MC CPI: D04-A01J; D04-B

L66 ANSWER 12 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
AN 2003(8):54 COMPENDEX
TI Catalytic oxidation of **gaseous** reduced sulfur compounds using coal fly ash.

AU Kastner, James R. (Dept. of Biol./Agric. Engineering University of Georgia, Athens, GA 30602, United States); Melear, Nathan D.; Das, K.C.
SO Journal of Hazardous Materials v 95 n 1-2 Nov 11 2002 2002.p 81-90
CODEN: JHMAD9 ISSN: 0304-3894
PY 2002
DT Journal
TC Theoretical
LA English
AB **Activated carbon** has been shown to oxidize reduced sulfur compounds, but in many cases it is too costly for large-scale environmental remediation applications. Alternatively, we theorized that coal fly ash, given its high metal content and the presence of carbon could act as an inexpensive catalytic oxidizer of reduced sulfur compounds for "**odor**" **removal.** Initial results indicate that coal fly ash can catalyze the oxidization of **H2S** and ethanethiol, but not dimethyl sulfide (DMS) and dimethyl disulfide (DMDS) at room temperature. In batch reactor systems, initial concentrations of 100-500ppmv **H2S** or ethanethiol were reduced to 0-2ppmv within 1-2 and 6-8min, respectively. This was contrary to control systems without ash in which concentrations remained constant. Diethyl disulfide was formed from ethanethiol substantiating the claim that catalytic oxidation occurred. The presence of **water** increased the rate of adsorption/reaction of both **H2S** and ethanethiol for the room temperature reactions (23-25deg C). Additionally, in a continuous flow packed bed reactor, a **gaseous** stream containing an inlet **H2S** concentration of 400-500ppmv was reduced to 200ppmv at a 4.6s residence time. The **removal** efficiency remained at 50% for approximately 4.6h or 3500 reactor volumes. These results demonstrate the potential of using coal fly ash in reactors for **removal** of H2 S and other reduced sulfur compounds. $CPY 2002 Elsevier Science B.V. All rights reserved. 19 Refs.
CC 804.2 Inorganic Components; 451.1 Air Pollution Sources; 802.2 Chemical Reactions; 802.3 Chemical Operations
CT *Sulfur compounds; Fly ash; Adsorption; Oxidation; **Activated carbon**
ST Catalytic oxidation
ET H*S; H2S; H cp; cp; S cp; H; S

L66 ANSWER 13 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-065895 [09] WPIX
DNC C2002-019496
TI **Gas**-liquid scrubber system for **removing** contaminants from **gas** stream, has tower vessel, liquid recirculation system, mechanism for populating media with microorganisms and mechanism for maintaining pH of recirculating liquid.
DC D15 D16 E36 J01
IN COREY, K J
PA (CORE-I) COREY K J
CYC 1
PI US 2001034056 A1 20011025 (200209)* 11p C12S005-00
ADT US 2001034056 A1 Provisional US 2000-186899P 20000303, US 2001-800419 20010305

PRAI US 2000-186899P 20000303; US 2001-800419 20010305
IC ICM C12S005-00
ICS C12M001-04
AB US2001034056 A UPAB: 20020208

NOVELTY - A **gas**-liquid scrubber system has a tower vessel having a **gas** inlet, an exhaust outlet, a perforate media support structure, and a sump; a liquid recirculation system having a pump, a nozzle, and a conduit connected between the pump and the nozzle; a mechanism for populating the media with sulfur-oxidizing microorganisms; and a mechanism for maintaining a pH of the recirculating liquid.

DETAILED DESCRIPTION - A **gas**-liquid scrubber system (10) comprises:

(a) a tower vessel (12) having a **gas** inlet (14) for receiving the **gas** stream; an exhaust outlet (16); a perforate media support structure between the **gas** inlet and the **gas** outlet; and a sump (18) for collecting liquid falling below the media support structure (20);

(b) a liquid recirculation system having a pump (30) fluid connected to the sump; a nozzle (32) in the tower vessel; and a conduit connected between the pump and the nozzle for spraying the media with the liquid, when a quantity of liquid is present in the sump;

(c) a mechanism for populating the media with sulfur-oxidizing microorganisms; and

(d) a mechanism for maintaining a pH of the recirculating liquid between a low limit (at least 1.0) and a high limit (at most 5.0). The perforate media support structure supports porous media (22) when the **gas** stream (25) passes through. The liquid used in the liquid recirculation system (26) goes back to the sump.

An INDEPENDENT CLAIM is also included for a process for **removing** contaminants including **hydrogen sulfide** from an incoming **gas** stream also containing oxygen, comprising:

(i) providing a porous media;

(ii) populating the media with sulfur-oxidizing microorganisms;

(iii) recirculating a liquid through the porous media;

(iv) passing the **gas** stream through the porous media, to permit the microorganisms to oxidize the **hydrogen sulfide** to produce sulfuric acid; and

(v) maintaining a pH of the recirculating liquid between a low limit and a high limit to **remove** the **hydrogen sulfide** from the **gas** stream.

USE - The system is useful for **removing** contaminants including **hydrogen sulfide** from an incoming **gas** stream also comprising oxygen.

ADVANTAGE - The inventive system can be operated less expensively than conventional chemical scrubbers. It greatly reduces the chemical and labor costs required for **odor** control of wastewater treatment plant offgases. It also reduces the cost of operating **activated carbon** scrubbers by **removing** about half of incoming organic pollutants.

DESCRIPTION OF DRAWING(S) - The figure shows a pictorial diagram of the system.

Gas-liquid scrubber system 10

Tower vessel 12
Gas inlet 14
Exhaust outlet 16
Sump 18
Support structure 20
Porous media 22
Gas stream 25
Liquid recirculation system 26
Pump 30
Nozzle 32
Control valve 42
PH probe 50
Dwg.3/6

FS CPI
FA AB; GI; DCN
MC CPI: D04-A01J; D05-A04A; E31-F01B; J01-E02H

L66 ANSWER 14 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2002-081149 [11] WPIX
DNC C2002-024356
TI Manufacturing method of tube-type immobilized biomedia for treating sewage/wastewater and **removing odor gas** and biomedia thereof.
DC D15
IN JUNG, J S; JUNG, Y S; MUN, J M; CHUNG, J S; CHUNG, Y S; MOON, J M
PA (ENVI-N) ENVICHEM CO LTD
CYC 1
PI KR 2001073244 A 20010801 (200211)* 1p C02F003-10
KR 336820 B 20020516 (200273) C02F003-10
ADT KR 2001073244 A KR 2000-1461 20000113; KR 336820 B KR 2000-1461 20000113
FDT KR 336820 B Previous Publ. KR 2001073244
PRAI KR 2000-1461 20000113
IC ICM C02F003-10
AB KR2001073244 A UPAB: 20020215
NOVELTY - A manufacturing method of tube-type immobilized biomedia for treating sewage / waster **water** and **removing odor gas** is provided, which can be applied to the treatment of nonbiodegradable organic matter and high concentration wastewater by using a tube-type supporter of large surface area and so increasing the habitation space of microorganism on the inner/outer surface of a coated layer of the supporter. The system can also be applied to the biomedia for a biofilter to **remove odor gases** such as **hydrogen sulfide** and ammonia.
DETAILED DESCRIPTION - The method is as follows: (i) coat the tube-type supporter of 20 mm in diameter made of plastic, fiber, wood and metal with activated inorganic material using an adhesive; and (ii) cure for hardening the adhesive, the activated inorganic material being made of 20-80 weight% of zeolite, 10-60 weight% of steel making slag and 5-50 weight% of one or more selected from a group consisting of cokes and **activated carbon.**
Dwg.1/10

FS CPI
FA AB; GI
MC CPI: D04-A01F; D04-A01J; D04-B10

L66 ANSWER 15 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2001-614821 [71] WPIX
DNC C2001-184027
TI Floating media having biomembrane for **deodorizing.**
DC D15
IN JANG, G S; LEE, Y D; YOON, H S; YOON, I S; CHANG, G S
PA (TAEB-N) TAEBAEK MULTI ENVRO ENG CO LTD; (TAEB-N) TAEBAEK ARCHITECTS & CONSULTANTS JH
CYC 1
PI KR 2001046783 A 20010615 (200171)* 1p C02F003-10
KR 360846 B 20021122 (200333) C02F003-10
ADT KR 2001046783 A KR 1999-50687 19991115; KR 360846 B KR 1999-50687 19991115
FDT KR 360846 B Previous Publ. KR 2001046783
PRAI KR 1999-50687 19991115
IC ICM C02F003-10
AB KR2001046783 A UPAB: 20030526
NOVELTY - Disclosed is a floating media having biomembrane for **deodorizing** in **water** treatment process. The media is adopted at **odor** emission sources with non-additional apparatus or site.

DETAILED DESCRIPTION - The media is composed of floating body being synthetic resins and fiber net coated with **activated carbon.** The media intercepts moving of **odor** into air, and **odor** is adsorbed by a biomembrane or **activated carbon.** Adsorbed **odor** is oxidized and reduced by microorganism of biomembrane. Thereby, emission of **odor** is minimized. Ammonia is oxidized into nitrate by aerobic microorganism of surface of biomembrane, and nitrate is denitrified into nitrogen **gas** by anaerobic microorganism of interior of biomembrane. **Hydrogen sulfide** is transformed into sulfide by sulfur oxidation microorganism.

Dwg.0/10
FS CPI
FA AB
MC CPI: D04-A01F; D04-A01J; D04-A01K; D04-B07C; D04-B07D

L66 ANSWER 16 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
AN 2001(56):48 COMPENDEX
TI **Removal** and decomposition of malodorants by using titanium dioxide photocatalyst supported on fiber **activated carbon.**
AU Nozawa, M. (Department of Chemical Engineering Tokyo Univ. of Agric. and Technology, Koganei, Tokyo 184-8588, Japan); Tanigawa, K.; Hosomi, M.; Chikusa, T.; Kawada, E.
SO Water Science and Technology v 44 n 9 2001.p 127-133
CODEN: WSTED4 ISSN: 0273-1223
PY 2001
DT Journal

TC Theoretical
LA English
AB Effective and compact **deodorization** systems have been required for the measure of small-scale emission sources of offensive **odors** usually found in urban areas. We have developed a sheet material with titanium dioxide (TiO2) photocatalyst supported on fiber **activated carbon** (FAC) for a compact **deodorization** system. In the **deodorization** system using the TiO2/FAC sheet and a ultraviolet lamp, malodorants can be collected on the TiO2/FAC sheet by adsorption and then decomposed by photocatalysis with UV-irradiation. In this study, we obtained basic information about the **removal** and the decomposition of malodorants in the photocatalytic **deodorization** system using the TiO2/FAC sheet. The malodorants used in this study were methyl mercaptan, ammonia, and **hydrogen sulfide.** In addition, two kinds of light sources, a black light bulb (BLB; dominant wavelength: 365 nm) and an ultraviolet germicidal lamp (UV2; dominant wavelength: 254 nm) were used to analyze the effect on **removal** and decomposition characteristics by different dominant wavelengths. The **removal** rates of malodorants from the **gas** phase were determined in the **deodorization** system in the presence or absence of the TiO2/FAC sheet and UV-irradiation in order to study each **removal** effect due to adsorption onto the TiO2/FAC sheet, direct photolysis by UV-irradiation, and photocatalytic decomposition. The effect of adsorption onto the TiO2/FAC sheet was pronounced in this batch-type experiment. The effect of photocatalysis was observed from the **removal** rates of methyl mercaptan. The percent oxidation of ammonia to nitrate and that of methyl mercaptan to sulfate were examined by determining products, i.e. nitrate and sulfate ions, with purified **water** after the reaction. The formation of nitrate or sulfate was not observed without UV-irradiation using the BLB, while the reactions progressed in the presence of the TiO2/FAC sheet. When the UV2 lamp was used, the oxidation of methyl mercaptan to sulfate occurred without the TiO2/FAC sheet. This suggests that the decomposition characteristics of malodorants were dependent on the wavelength of the light source. 11 Refs.
CC 445.1 Water Treatment Techniques; 802.2 Chemical Reactions; 804.2 Inorganic Components; 707.2 Electric Lamps; 741.3 Optical Devices and Systems; 802.3 Chemical Operations
CT ***Odor removal**; Photocatalysis; **Activated carbon**; Titanium dioxide; Adsorption; Irradiation; Ultraviolet lamps; Decomposition
ST **Deodorization** systems; Fiber **activated carbon** (FAC)
ET O*Ti; TiO; Ti cp; cp; O cp

L66 ANSWER 17 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 1010680323 JICST-EPlus.
TI Development of high-activity macroporous **calcium oxide** desulfurizing agents. (Steel Industry Foundation for the Adv. of Environ. Technol. S).
AU SASAOKA EIJI
CS Okayama Univ. Fac of Environmental Sci and Techonol.
SO Kankyo Kenkyu Josei, Seika Gaiyosho. Dai20kai, Heisei 11 Nendo. Taiki,

Suishitsu, Haikibutsu, Chikyu Kankyo, Seitai Eikyo, Yugai Taiki, (2001) pp. 1-2. Journal Code: N20011455 (Fig. 2)
CY Japan
DT Journal; Short Communication
LA Japanese
STA New
AB In order to prepare an optimum porous **calcium oxide** desulfurizing agent from limestone and calcined lime, the author measured by thermobalance the SO2 elimination activity of each desulfurizing agent prepared by each wet type swelling method using acetic acid, steam, **water** and **water** - acetic acid, and examined the relations between conversion rate to calcium sulfate and reaction time. The author also examined high-temperature SOx elimination, low-temperature simultaneous SOx - NOx elimination and high-temperature N2O catalytic cracking using calcium carbonate. Preparation of a high-activity SOx elimination agent by **water** - acetic acid method, which was equivalent with that by acetic acid method, was possible at low-cost, and an agent prepared from carbonate had also high-temperature SOx elimination ability. Development of a preparation method to increase pores in micro meso region is also necessary.
CC YE01040J; SC04030H; YC05030U (662:628.511/.512; 628.512; 666.92)
CT desulfurization; porous medium; **calcium oxide**; adsorbent; sorbent; denitration; exhaust **gas** treatment; air pollution; lime(calcium); calcium sulfate; calcium carbonate; sulfur dioxide; nitrogen oxide; **hydrogen sulfide** (chalcogenide); thermal power generation; prevention of pollution; environmental conservation; **gasification**; offensive **odor** ; fuel additive; fatty acid
BT **removal**; porous object; calcium compound; alkaline earth metal compound; **metal oxide**; oxide; chalcogenide; oxygen group element compound; oxygen compound; additive; admixture; material; waste treatment; treatment; environmental pollution; pollution; sulfate(salt); sulfur oxoate; sulfur compound; oxoate; carbonate(salt); carbon oxoate; carbon compound; carbon group element compound; sulfur oxide; nitrogen compound; nitrogen group element compound; hydrogen compound; sulfide(chalcogenide); power generation; electric power energy operation; environmental pollution control; countermeasure; preclusion(protection); environmental management; management; modification; **smell**; aliphatic carboxylic acid; carboxylic acid
ST **gasificating** desulphrization; **gas odorant**

L66 ANSWER 18 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:712669 CAPLUS
DN 133:270861
ED Entered STN: 10 Oct 2000
TI **Deodorization** agent composition and **deodorant** product
IN Hirukawa, Toshio; Takagi, Osamu; Yamada, Yoshinori
PA Toa Gosei Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

IC ICM A61L009-01
ICS A61L009-01
CC 59-6 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000279500	A2	20001010	JP 1999-94226	19990331
PRAI JP 1999-94226		19990331		

AB This **deodorization** agent composition contains a **deodorization** agent consisting of an organic or inorg. support and a primary amino group-containing compound and a **deodorization** agent containing Al silicate. The composition may further contain insol. or hardly soluble metal phosphates bearing Cu, Zn, and/or **Mg** and/or hydrated Zr **oxide.** The **deodorant** product is obtained by dispersing the composition in **water** or a solvent or depositing it on a substrate. The composition and **deodorant** product can simultaneously remove malodor of aldehydes and basic gases such as NH3, trimethylamine, etc.

ST **deodorization** agent compn aldehyde amine removal; primary amine aluminum silicate **deodorant** compn

IT **Deodorants**
(**deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT Aldehydes, processes
Amines, processes
RL: REM (Removal or disposal); PROC (Process)
(**deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT Air purification
(**deodorization**; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT **7440-44-0**, **Carbon**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**activated**, **deodorant** composition containing; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 1335-30-4, Aluminum silicate
RL: TEM (Technical or engineered material use); USES (Uses)
(amorphous chelates, KW 700 as; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 64-19-7, Acetic acid, processes 75-07-0, Acetaldehyde, processes
7664-41-7, Ammonia, processes **7783-06-4**, **Hydrogen sulfide**, processes
RL: REM (Removal or disposal); PROC (Process)
(**deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 111-40-0, Diethylenetriamine
RL: TEM (Technical or engineered material use); USES (Uses)
(**deodorant** composition containing porous silica containing; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 1314-23-4D, Zirconium oxide, hydrated

RL: TEM (Technical or engineered material use); USES (Uses)
(**deodorant** composition containing; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 13765-95-2, Zirconium phosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(metal-bonded, **deodorant** composition containing; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 7631-86-9, Silica, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(porous, diethylene triamine on; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

IT 7439-96-5, Manganese, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
RL: MOA (Modifier or additive use); USES (Uses)
(zirconium phosphate bonded with, **deodorant** composition containing; **deodorant** composition and **deodorization** product capable of removing amines and aldehydes)

L66 ANSWER 19 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2000-343398 [30] WPIX
DNC C2000-104532
TI **Deodorization** of malodors produced from sewage and sludge - involves using microbial-impregnated honey-comb-type column supplied with **aqueous** medium.
DC D15 D16 D22 E19
PA (TAKE) TAKEDA CHEM IND LTD
CYC 1
PI JP 2000107555 A 20000418 (200030)* 8p B01D053-38
ADT JP 2000107555 A JP 1998-282699 19981005
PRAI JP 1998-282699 19981005
IC ICM B01D053-38
ICS B01D053-81; C12N011-14
AB JP2000107555 A UPAB: 20000624
NOVELTY - A **deodorization** method for processing unpleasant **odors** arising from sludge, involves using microbial honey-comb, supplied with **aqueous** medium.
USE - For **deodorizing** unpleasant **odor** produced by **hydrogen sulfide**, mercaptans, sulfides, ammonia, amines, aldehydes and organic acids (claimed). For processing sewage and sludge produced from waste disposal of human, plant livestock, chemical plants, coating works or fertilizers.
ADVANTAGE - Microorganisms adhered to honey-comb **deodorizer** reduces the pressure loss. The dispersibility of **gas** is improved. A combination of bio-**deodorizing** honey-comb and **activated carbon** honey-comb is efficient in **deodorizing** unpleasant **odor** completely.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: D09-B; E31-B03A; E31-B03C; E31-N04C

L66 ANSWER 20 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2000-189322 [17] WPIX
DNC C2000-058835
TI **Deodorizing** apparatus for e.g. sewage treatment, human waste process, comprises tower filled with microorganism and compact carrier of fibrous **activated carbon.**
DC D15 D22 J01
PA (NIRA) UNITIKA LTD
CYC 1
PI JP 2000033230 A 20000202 (200017)* 5p B01D053-38
ADT JP 2000033230 A JP 1998-206263 19980722
PRAI JP 1998-206263 19980722
IC ICM B01D053-38
ICS B01D053-81; B01D053-86; B01J020-20
AB JP2000033230 A UPAB: 20000412
NOVELTY - The microorganism which degrades the nasty **smell**, is filled in the **deodorizing** tower (1) containing a compact carrier which is fibrous **activated carbon.** The reactor (4) maintains 30 weight percent or more **moisture** content with respect to weight of fibrous **activated carbon.**
USE - For **removing** sulfur containing malodorous **gas** such as **hydrogen sulfide**, methyl mercapton, methyl sulfide and methyl disulfide during sewage treatment, human waste process, foodstuffs waste **water** treatment and daily life waste process.
ADVANTAGE - The **deodorizing** apparatus having high speed is inexpensive and can process the malodorous sulfur **gas** with high efficiency by the wet oxidation catalyst mechanism.
DESCRIPTION OF DRAWING - The figure shows the **deodorizing** apparatus. (1) **Deodorizing** tower; (4) Reactor.
Dwg.1/1
FS CPI
FA AB; GI
MC CPI: D04-B10; J01-E02B

L66 ANSWER 21 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 2000-189321 [17] WPIX
DNC C2000-058834
TI **Deodorizing** method of sulfur containing malodorous **gas** generated by sewage treatment, involves using compact containing fibrous **activated carbon** and **moisture.**
DC D15 D22 J01
PA (NIRA) UNITIKA LTD
CYC 1
PI JP 2000033229 A 20000202 (200017)* 5p B01D053-38
ADT JP 2000033229 A JP 1998-206262 19980722
PRAI JP 1998-206262 19980722
IC ICM B01D053-38
ICS B01D053-34; B01D053-81; B01D053-86; B01J020-20
AB JP2000033229 A UPAB: 20000412
NOVELTY - The sulfur containing malodorous **gas** is **deodorized** by providing a compact containing 20 weight percent or more of fibrous **activated carbon** and 30 weight% or more

of **moisture.**

USE - For **deodorizing** sulfur containing malodorous **gas** generated from sewage treatment and foodstuff waste **water** treatment.

ADVANTAGE - The sulfur group malodorous **gas** such as **hydrogen sulfide**, methyl mercaptan, methyl sulfide and methyl disulfide is **deodorized** effectively and economically.

Dwg.1/2

FS CPI
FA AB; GI
MC CPI: D04-B10; J01-E02B

L66 ANSWER 22 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:380557 CAPLUS
DN 131:22702
ED Entered STN: 21 Jun 1999
TI Apparatus for **deodorization** of odorous gases by wet oxidation with ozone
IN Horioka, Tomoharu; Nakajima, Masashi; Funada, Ichiro
PA Denimu K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B01D053-38
ICS B01D053-74
CC 59-4 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11156148	A2	19990615	JP 1997-321674	19971121
PRAI	JP 1997-321674		19971121		

AB The apparatus comprises means for mixing odorous gases (e.g., NH3, **H2S**, or MeSH) from sewage effluents with O3 from an ozonizer, means for contacting countercurrently the mixed gases with atomized **water** via spray nozzle through zigzag shaped path in a wet oxidation tower, means for passing the treated gases through a mist eliminator at overhead part of the wet oxidation tower, means for feeding the liquid effluents of the wet oxidation tank into a sewage treatment system, means for decompose residual O3 in the treated gases by passage through fixed beds of catalysts containing **metals** or **metal oxides** on **activated carbon** support at down stream.

ST **deodorization** odorous gas domestic sewage ozone
IT Waste gases
(apparatus for **deodorization** of odorous gases by wet oxidation with ozone)
IT Air purification
(**deodorization**; apparatus for **deodorization** of odorous gases by wet oxidation with ozone)
IT Decomposition catalysts
(residual ozone removal by; apparatus for **deodorization** of odorous gases by wet oxidation with ozone)

IT 10028-15-6, Ozone, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(apparatus for **deodorization** of odorous gases by wet oxidation with ozone)

IT 74-93-1, Methyl mercaptan, occurrence 75-07-0, Acetaldehyde, occurrence 75-18-3, Dimethyl sulfide 75-50-3, Trimethylamine, occurrence 100-42-5, occurrence 624-92-0, Methyl disulfide 7664-41-7, Ammonia, occurrence **7783-06-4**, **Hydrogen sulfide**, occurrence
RL: POL (Pollutant); OCCU (Occurrence)
(apparatus for **deodorization** of odorous gases by wet oxidation with ozone)

L66 ANSWER 23 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:380550 CAPLUS
DN 131:22701
ED Entered STN: 21 Jun 1999
TI Apparatus and method for **deodorization** of odorous gases by using ozone
IN Funada, Ichiro
PA Denimu K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61L009-015
ICS A61L009-00; A61L009-01; B01D053-14; B01D053-18
CC 59-4 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11155941	A2	19990615	JP 1996-128607	19960523
	JP 3054361	B2	20000619		
PRAI	JP 1996-128607		19960523		

AB The apparatus comprises means for mixing odorous gases (e.g., NH3, **H2S**, or MeSH) from sewage effluents with O3 from an ozonizer, means for contacting countercurrently the mixed gases with **water** via zigzag shaped path in a wet scrubbing tower having a mist eliminator at top, and means for decompose residual O3 in the treated gases by passage through fixed beds of catalysts containing **metals** or **metal oxides** on **activated carbon** support at down stream.

ST **deodorization** odorous gas domestic sewage ozone

IT Waste gases
(apparatus and method for **deodorization** of odorous gases by using ozone)

IT Air purification
(**deodorization**; apparatus and method for **deodorization** of odorous gases by using ozone)

IT Decomposition catalysts
(residual ozone removal by; apparatus and method for **deodorization**

of odorous gases by using ozone)

IT 10028-15-6, Ozone, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(apparatus and method for **deodorization** of odorous gases by using ozone)

IT 74-93-1, Methyl mercaptan, occurrence 75-07-0, Acetaldehyde, occurrence 75-18-3, Dimethyl sulfide 75-50-3, Trimethylamine, occurrence 100-42-5, occurrence 624-92-0, Methyl disulfide 7664-41-7, Ammonia, occurrence **7783-06-4**, **Hydrogen sulfide**, occurrence
RL: POL (Pollutant); OCCU (Occurrence)
(apparatus and method for **deodorization** of odorous gases by using ozone)

L66 ANSWER 24 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 990272942 JICST-EPlus
TI Ecotechnology. Ozone catalytic **deodorizing** equipment.
AU TERUI SADAO
CS Nippon Shokubai Co., Ltd.
SO Kagaku Sochi (Plant and Process), (1999) pp. 74-77. Journal Code: G0109A (Fig. 6, Tbl. 1)
CODEN: KASOB7; ISSN: 0368-4849
CY Japan
DT Journal; Commentary
LA Japanese
STA New
AB This article introduces the ozone catalytic **deodorizing** equipment "Cataclean" developed by NIPPON SHOKUBAI CO., LTD. for the **odor** control of wastewater treatment facilities. This **deodorizing** equipment employs the ozone **deodorization** catalyst TSO and an ozonizer. Moreover, the wet desulphurization equipment using the liquid catalyst Chinorex (naphthoquinones) is added as a pretreatment equipment. This article describes the reaction mechanisms of the above both catalysts. As an example of **deodorizing** performance, the results of a confirmation test carried out at a wastewater treatment facility in an agricultural village are shown. This **deodoring** equipment exhibits excellent **removal** efficiency of neutral **gas.** Comparisons are made between Cataclean and the other **deodorization** systems (**activated carbon** adsorption, chemical cleaning, biological **deodorization**). In addition, the advanced type of this equipment is mentioned.
CC SB04010I; SC03050W (614.718; 628.34)
CT offensive **odor**; **deodorization**; waste **water** treatment; chemical **water** treatment; ozonolysis; pretreatment; desulfurization; catalyst; rural village; drainage(**water**); **hydrogen sulfide**(chalcogenide); chemical process; sewage treatment plant; thiol; aliphatic compound; sulfide(organic); disulfide
BT **smell**; **removal**; sewage treatment; **water** and sewage treatment; treatment; oxidation; chemical reaction; decomposition; settlement(village); colony; community; group; hydrogen compound;

sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; process; **water** treatment plant; facility and building; organosulphur compound; polysulfide(organic)

L66 ANSWER 25 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 990923161 JICST-EPlus
TI Offensive **Odor** from Sewage Treatment Plant & Application of Packed Column Type Biological **Deodorizing** System.
AU HONDO KAZUOMI; KATO AKINORI; NAKAO AKIO
CS Sumitomo Heavy Ind., Ltd.
SO Sumitomo Jukikai Giho (Sumitomo Heavy Industries, Ltd. Technical Review), (1999) vol. 47, no. 140, pp. 39-42. Journal Code: F0316A (Fig. 7, Tbl. 2, Ref. 3)
ISSN: 0387-1304
CY Japan
DT Journal; Article
LA Japanese
STA New
AB There are many **deodorizing** systems in sewage treatment plants which are chemical rinsing system, adsorption system using **activated carbon**, ozon oxidation system, and so on. Recently, biological **deodorizing** system which is using packed column has been attracting much attention. We have developed the system which has many characteristics as above and delivered first commercial plant in 1998. In this paper, we introduce the our biological packed column **deodorizing** system and explain the performance of **deodorization** at a sewage treatment plant. The outlines of effect are as follows. 1) It was confirmed that by using the system, we were able to **remove** the offensive **odor** in sewage treatment plant efficiently, such as **hydrogen sulfide**, methyl mercaptane, methyl sulfide and dimethyl sulfide. 2) It was proved that the packed columnis fillers which were made of special synthetic resins have a excellent endurance against chemical corrosion. 3) It was confirmed that the **gas** pressure drop were very low, because of using the packed columnis fillers which were made of special synthetic resins, so, electrical low running cost was achieved. (author abst.)
CC SC03050W (628.34)
CT sewage treatment plant; waste **water** treatment; **deodorization**; packed tower; **deodorizing** equipment; filler(admixture); **activated carbon**; operating cost; cost reduction; **odor** control
BT **water** treatment plant; facility and building; sewage treatment; **water** and sewage treatment; treatment; **removal**; chemical equipment; equipment; separator(equipment); admixture ingredient; admixture; material; carbon material; inorganic material; cost; reduction; variation; environmental pollution control; countermeasure; preclusion(protection)

L66 ANSWER 26 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 990180999 JICST-EPlus
TI Biodeodorization System of Packed Column Type.
SO NKK Giho (NKK Technical Report), (1998) no. 164, pp. 86-87. Journal Code:

F0229A (Fig. 2, Tbl. 2)
ISSN: 0915-0536
CY Japan
DT Journal; Miscellaneous
LA Japanese
STA New
CC SC03050W (628.34)
CT sewage treatment plant; **deodorizing** equipment; carbon; carrier; packed tower; **deodorization**; **activated carbon**; **odor** material; biochemical treatment of waste; effluent **gas**; **hydrogen sulfide**(chalcogenide); adsorption equipment; fixed bed reactor
BT **water** treatment plant; facility and building; separator(equipment); equipment; second row element; element; carbon group element; chemical equipment; **removal**; carbon material; inorganic material; material; pollutant; matter; **smell** substance; waste treatment; treatment; waste; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; chemical reactor
ST sewage-treatment plant; adsorption column; malodorous material; biological **deodorization**

L66 ANSWER 27 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 980017811 JICST-EPlus
TI Environmental Technology. High-performance Biological **Deodorizing** Technology.
AU KASHINO YOSHINORI; NISHIE MASAICHIRO; NAKAJIMA TOSHIYUKI
MAKIMURA YOSHIKI; ISHIMARU KENJI
OKOSHI YOSHIO
CS Kobe Steel, Ltd., IP Center
Kobeseikosho Kagakukankyoken
Tokyo Metrop. Sewerage Serv. Corp.
SO R & D / Kobe Seiko Giho (Kobe Steel Engineering Reports), (1997) vol. 47, no. 3, pp. 72-75. Journal Code: F0164A (Fig. 7, Tbl. 2)
ISSN: 0373-8868
CY Japan
DT Journal; Article
LA Japanese
STA New
AB New biological **deodorizing** equipment using porous carbon carriers has been developed to **deodorize** all components of **odoriferous gases** which evolved in the sludge treatment process at sewage works. The **odor** concentrations in the treated **gas** satisfied the strictest regulations in Japan. Because of the high performance of **deodorization**, this equipment does not require **activated carbon** treatment which is necessary in conventional systems. (author abst.)
CC SB04010I (614.718)
CT sewage treatment plant; sewage treatment; **odor** material; carrier; porous medium; carbon material; **hydrogen sulfide**(chalcogenide); equipment for pollution control; **deodorization**; **deodorizing** equipment; trickling filter

process; pH dependence; microorganism; immobilized cell; immobilized microbe; aliphatic compound; thiol

BT **water** treatment plant; facility and building; **water** and sewage treatment; treatment; pollutant; matter; **smell** substance; porous object; inorganic material; material; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; **removal**; separator(equipment); equipment; biological **water** treatment; dependence; cell(cytology); organosulphur compound

L66 ANSWER 28 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 960855399 JICST-EPlus
TI Biotechnology and **Deodorization.**
AU SHODA MAKOTO
CS Res. Lab. of Resour. Util., Tokyo Inst. of Technol.
SO Kuki Chowa, Eisei Kogaku, (1996) vol. 70, no. 9, pp. 711-717. Journal Code: F0331A (Fig. 8, Tbl. 3, Ref. 11)
CODEN: KCEKA6; ISSN: 0386-4081
CY Japan
DT Journal; Article
LA Japanese
STA New
AB Biological **deodorization** is attracting attention mainly because its high **removal** efficiency of relatively low concentrations of **odorous** compounds and its low operation cost compared with conventional physical and chemical methods. In order to enhance its efficiency of **deodorization**, application of biotechnology is a key point. Here, biotechnological aspects of peat biofilter were described in the **removal** of ammonia and sulfur-containing compounds like **hydrogen sulfide**, methanethiol, dimethyl sulfide and dimethyl disulfide. Isolation of useful bacteria which have a high activity for **removal** of those compounds, and basic characteristics of those bacteria from kinetic and biochemical aspects were demonstrated. Based on those analyses, the practical application to **remove** exhaust **gases** from the night soil treatment plant was carried out and effectiveness of use of the isolated bacteria was proved. Selection of carriers for the immobilization of the bacteria on biofilter was shown and fibrous **activated carbon** was found to oxidize **hydrogen sulfide** in wet condition to sulfate at room temperature. The combined method of biological and chemical means was suggested as a new method. (author abst.)
CC SB04010I; SC03060H (614.718; 628.35)
CT **deodorization**; biological **water** treatment; peat; ammonia; sulfur compound; biodegradation; **odor** material
BT **removal**; **water** and sewage treatment; treatment; coal; soil organic matter; soil component; component; organic substance; hydride; hydrogen compound; nitrogen compound; nitrogen group element compound; oxygen group element compound; decomposition; pollutant; matter; **smell** substance

L66 ANSWER 29 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 960638561 JICST-EPlus

TI The Characteristics and Applications of Pore-Size-Controlled Granular **Activated Carbon.**

AU SUZUKI MASAYUKI; FURUKAWA KEIZO; HAMASAKI ISAO; IWASHIMA YOSHINORI; HIROTA HIDEO; FUKUNAGA TETSUYA; KOSAKA HIROAKI

CS Takeda Chem. Ind., Ltd.

SO Takeda Kenkyu Shoho (Journal of the Takeda Research Laboratories), (1996) vol. 55, pp. 201-212. Journal Code: F0323A (Fig. 10, Tbl. 5, Ref. 12) CODEN: TAKHAA; ISSN: 0371-5167

CY Japan

DT Journal; Article

LA Japanese

STA New

AB There is a clear relationship between adsorption performance and pore size of carbons. In order to improve adsorption performance, the pore size needs to be controlled optimally for each application. The pore diameter, however, highly depends on the raw material of **activated carbons.** For example, the controllable average pore diameter of an **activated carbon** from cocount shells is limited between 17 and 20.ANGS.. We have developed a new chemical activation technology to regulate average pore diameter in the range of 18-40.ANGS.. The granular **activated carbons** obtained through this process show possibility for various industrial applications. Three kinds of carbons, HS32A, HS24A and HS19A, with different pore diameters were tested for liquid phase applications. HS32A was proved useful in sugar industries or chemical industries, specifically for decolorization of sugar liquor or chemicals solutions. HS24A and HS19A were found useful for **water** purifier because of the ability for chlorine **removal.** Carbon HR was tested for **gas** phase applications; it showed possibility for recovery of the solvent, especially with high boiling point, such as xylene and methyl isobutyl ketone. (author abst.)

CC YB03000W (661.183)

CT **activated carbon**; **activated carbon** treatment; pore diameter; pore size distribution; decolorization; chemisorption; sugar juice clarification; **deodorization**; **hydrogen sulfide**(chalcogenide); chlorine; solvent; **water** supply service; household utensils; purifier; aliphatic chlorine compound; trihalomethane; aliphatic ketone; deoxysugar; alkylbenzene; amino acid; aliphatic amine; aliphatic carboxylic acid; chemical seasoning; carboxylate(salt)

BT carbon material; inorganic material; material; treatment; diameter; length; geometric quantity; distribution; **removal**; adsorption; sugar production; food processing; working and processing; manufacturing; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; third row element; element; halogen; component; building equipment; facility; apparatus(facility); utensil; aliphatic halogen compound; organohalogene compound; organochlorine compound; ketone; carbonyl compound; carbohydrate; aromatic hydrocarbon; hydrocarbon; aromatic compound; amine; carboxylic acid; food additive; additive; admixture; seasoning(condiment); food

L66 ANSWER 30 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN

AN 940444839 JICST-EPlus

TI Biological **deodorization** method utilizing special PVA carrier as a packing material.
AU TACHIKAWA KAZUMI
CS NGK Insul., Ltd.
SO Shuki Taisaku Semina Koen Shiryoshu (Lectures of Odor Research and Engineering Seminar), (1994) vol. 1993, pp. 35-38. Journal Code: L2041A (Fig. 7, Tbl. 1)
CY Japan
DT Conference; Article
LA Japanese
STA New
AB Practical application of deoderizer using special PVA carrier as microorganism immobilizing carrier was conducted.This carrier is made by welding active carbon on the surface of PVA gel particles, and able to immobilize microorganism at a high density and bear suitable microbes for the **removal** of **odorous** components.This system is able to biologically degradate more efficiency degradable compounds (**H2S**) and hardly-degradable compounds (neutral **gas**).This system is effective as the pretreatment of active carbon adsorption method for offensive **odor.**
CC SB04010I; SC03020P (614.718; 628.32)
CT polyvinyl alcohol; carrier; microorganism; immobilized cell; **activated carbon**; surface treatment; packing material; **deodorization**; **odor** material; microbial degradation; **gas** treating; **deodorizing** equipment; **hydrogen sulfide**(chalcogenide); sewage treatment plant; **odor** control
BT polymer; thermoplastic; plastic; cell(cytology); carbon material; inorganic material; material; treatment; object; **removal**; pollutant; matter; **smell** substance; biodegradation; decomposition; microbiological reaction; reaction; separator(equipment); equipment; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; **water** treatment plant; facility and building; environmental pollution control; countermeasure; preclusion(protection)

L66 ANSWER 31 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1993-388045 [49] WPIX
DNC C1993-172580
TI Titanium oxide particles useful for pigments, catalysts, catalyst supports and adsorbents, also as **deodorants** - comprises substrate having supported zinc oxy cpd. or combination of zinc oxy cpd. and silicon oxy cpd..
DC D22 E32 G01 P34
IN ANDO, H; MARUO, M; MUKAI, C; WATANABE, M
PA (ISHH) ISHIHARA SANGYO KAISHA LTD
CYC 19
PI EP 572914 A1 19931208 (199349)* EN 16p C09C001-36
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 06199524 A 19940719 (199433) 9p C01G023-00
EP 572914 B1 19950809 (199536) EN 16p C09C001-36
R: AT BE CH DE DK ES FR GB IT LI NL SE

DE 69300353	E	19950914	(199542)		C09C001-36
ES 2075746	T3	19951001	(199545)		C09C001-36
US 5480636	A	19960102	(199607)	9p	A61L009-20
US 5624667	A	19970429	(199723)	9p	A61L009-20
JP 2789157	B2	19980820	(199838)	9p	C01G023-00

ADT EP 572914 A1 EP 1993-108520 19930526; JP 06199524 A JP 1993-145628 19930525; EP 572914 B1 EP 1993-108520 19930526; DE 69300353 E DE 1993-600353 19930526, EP 1993-108520 19930526; ES 2075746 T3 EP 1993-108520 19930526; US 5480636 A US 1993-69416 19930601; US 5624667 A CIP of US 1993-69416 19930601, US 1995-405134 19950316; JP 2789157 B2 JP 1993-145628 19930525

FDT DE 69300353 E Based on EP 572914; ES 2075746 T3 Based on EP 572914; US 5624667 A CIP of US 5480636; JP 2789157 B2 Previous Publ. JP 06199524

PRAI JP 1992-327342 19921112; JP 1992-168380 19920603

REP 4.Jnl.Ref; DE 2140711; FR 1350550; GB 545604; GB 581008; JP 03200878; JP 63302856; SU 492529; US 3640743; 2.Jnl.Ref

IC ICM A61L009-20; C01G023-00; C09C001-36
ICS A61K007-36; B01D053-36; B01D053-86; B01J020-06; B01J023-06; C09C001-00

AB EP 572914 A UPAB: 19981028

Ti oxide particles comprise particulate Ti oxide substrate having a Zn oxy cpd. supported on it in a molar ratio of the total Ti amount included in the substrate to the Zn amount of the zinc oxy cpd. of i.e. Ti:Zn=9.9:01 to 5:5. Zn oxy cpd. is produced by neutralising a Zn cpd. with a **water** soluble cpd. of alkali metal or alkaline earth metal.

Ti oxide particles pref. comprise particulate Ti oxide substrate having Zn oxy cpd. and a Si oxy cpd. supported on it. These are in a molar ratio of the total Ti amount included in the substrate to the Zn amount of the zinc oxy cpd. of i.e. Ti:Zn = 9.9:0.1 to 5:5, and in a molar ratio of the Zn amount of said zinc oxy cpd. to the Si amount of silicon oxy cpd. of i.e. Zn:Si = 9:1 to 0.1:9.9.

Producing Ti oxide particles pref. comprising particulate titanium oxide substrate having a zinc Zn oxy cpd. supported on it involves (i) adding a **water** soluble cpd. of alkali(ne earth) metal and Zn cpd. to a dispersion of particulate Ti oxide substrate to neutralise the Zn cpd. in the dispersion, then (ii) separating and drying the resultant prod.

USE/ADVANTAGE - Useful as pigments, catalyst and adsorbents. Also used as a **deodorant** capable of **removing** malodorous **gases** e.g. ammonia, methyl mercaptan, **H2S**, trimethylamine, methyl sulphide and acetaldehyde through decomposition and adsorption. Particles are useful as white **deodorants** for sanitary objects e.g. paper diaper and sanitary napkins which come into direct contact with human skin. Also used as a noxious material scavenger capable of decomposing noxious material by a photocatalytic reaction.

Dwg.0/0

FS CPI GMPI

FA AB; DCN

MC CPI: D09-C02; D09-C03; E31-P05A; E35-C; E35-K02; G01-A08

L66 ANSWER 32 OF 75 JAPIO (C) 2003 JPO on STN

AN 1993-161818 JAPIO

TI METHOD FOR **DEODORIZING** MALODOROUS **GAS** CONTAINING

AMMONIA AND **HYDROGEN SULFIDE**
IN ISHII YASUHIKO
PA KURITA WATER IND LTD
PI JP 05161818 A 19930629 Heisei
AI JP 1991-331878 (JP03331878 Heisei) 19911216
PRAI JP 1991-331878 19911216
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1993
IC ICM B01D053-34
ICS B01D053-34
AB PURPOSE: To simultaneously **remove** ammonia and **hydrogen sulfide** by one washing treatment by washing malodorous **gas** with an **aqueous** solution with a specific pH value containing chlorine dioxide and/or hypochlorite.
CONSTITUTION: Malodorous **gas** containing ammonia and **hydrogen sulfide** is supplied to a washing tower 2 from piping 1 and brought into contact with an **aqueous** solution with pH 2-3 containing chlorine dioxide and/or hypochlorite such as sodium hypochlorite to be washed therewith in the washing tower 2. Ammonia contained in the malodorous **gas** is neutralized by the contact with the washing solution with a low pH value to be absorbed in the washing solution. At the same time, a sulfur compound such as **hydrogen sulfide** is oxidized to sulfuric acid by chlorine dioxide and sodium hypochlorite to be absorbed in the washing solution to be **removed.** The **gas** discharged from the washing tower 2 is supplied to an **activated carbon** adsorbing tower 4 and other malodorous substances or residual malodorous substances are adsorbed and **removed** to obtain treated **gas** from which malodorous components are sufficiently **removed.** By this constitution, the reduction of the number of washing towers, the miniaturization of apparatus equipment, the simplification of the operation of the apparatus and reduction of maintenance are achieved.

L66 ANSWER 33 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN DUPLICATE 2
AN 1994(22):883 COMPENDEX
TI Treatment of exhaust **gases** from a night soil treatment plant by a combined **deodorization** system of **activated carbon** fabric reactor and peat biofilter inoculated with Thiobacillus thioparus DW44.
AU Park, Sang-jin (Tokyo Inst of Technology, Yokohama, Jpn); Hirai, Mitsuyo; Shoda, Makoto
SO Journal of Fermentation and Bioengineering v 76 n 5 1993.p 423-426
CODEN: JFBIEX ISSN: 0922-338X
PY 1993
DT Journal
TC Experimental; Application
LA English
AB The exhaust **gases** from a night soil treatment plant were treated by a pilot-scale two-stage **deodorization** system consisting first of an **activated carbon** fabric (ACF) reactor and then a peat biofilter inoculated with Thiobacillus thioparus DW44 for a period of

about 2.5 months at space velocities (SV) of 300 and h minus .The stable **removal** ratios for dimethyl sulfide (DMS) and dimethyl disulfide (DMDS) in this two-stage system continued longer than in a peat biofilter used shown in a previous study, mainly because **hydrogen sulfide** (H@2S) and methanethiol (MT) were oxidized first in the ACF filter, thus significantly reducing the decline of the pH in the second peat biofilter.The two-stage system was also found to be more easily operated than the single-stage peat biofilter in terms of the **water** supply requirements and stabilization of the peat to guarantee microbial activity.As the DMS **removal** ratio was reduced at an SV of 500 h minus even when the pH was stably maintained, it was assumed that DW44 was metabolically overloaded with respect to its ability to **remove** DMS at an SV of 500 or more.(Author abstract)
12 Refs.

CC 804.1 Organic Components; 461.2 Biological Materials; 461.8 Biotechnology

CT *Exhaust **gases**; **Activated carbon**; Bioreactors; Biological materials; Fabrics; Sewage treatment

ST Night soil treatment plant; Combined **deodorization** system; **Activated carbon** fabric; Peat biofilter; Thiobacillus thioparus

ET H*S; H@2S; H cp; cp; S cp

L66 ANSWER 34 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN

AN 930981586 JICST-EPlus

TI A New Biological Deodrization Device Using Dried Activated Sludge.

AU HATAKEYAMA SHUICHIRO; NAGAYASU KOZO; SUWA TAKASHI; HAYASHITANI MASAO; ITO HAYAMI
HABATA KYO; KITAKAZE TOORU

CS Kawasakijukogyo Akashigiken
Kawasaki Heavy Industries, Ltd.

SO Kawasaki Juko Giho (K.H.I. Technical Review), (1993) no. 119, pp. 64-70.
Journal Code: F0461A (Fig. 14, Tbl. 12, Ref. 3)
ISSN: 0387-7906

CY Japan

DT Journal; Article

LA Japanese

STA New

AB A new device for biological **deodorization** has been developed using dried activated sludge as a **deodorant.** The technique **removes** more than 99% of 200ppm **H2S** and 2,000ppm **H2S** at space velocities of 400h-1 and 33h-1 respectively. Nine typical offensive **odor** substances were **removed** continuously at the same time. The technical data for designing this **deodorizing** device were obtained from experiments using artificial **gases.** The device was tested at a public waste **water** treatment plant and it maintained a high **deodorizing** efficiency for more than 10 months. Maintenance of the device was simple and cost only 75% that of current systems. (author abst.)

CC XD02060I; SB04010I (66.06/.07+; 614.718)

CT sewage treatment plant; activated sludge; excess sludge; **deodorizer**(agent); **hydrogen sulfide** (chalcogenide); **gas** analysis; **deodorizing** equipment;

activated carbon
BT **water** treatment plant; facility and building; sludge; **water** pollutant; pollutant; matter; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; chemical analysis; analysis(separation); analysis; separator(equipment); equipment; carbon material; inorganic material; material

L66 ANSWER 35 OF 75 JAPIO (C) 2003 JPO on STN
AN 1992-210237 JAPIO
TI AIR CLEANING MATERIAL AND PRODUCTION OF THE SAME
IN NODA TAMIO
PA NIPPON STEEL CORP
PI JP 04210237 A 19920731 Heisei
AI JP 1990-410073 (JP02410073 Heisei) 19901213
PRAI JP 1990-410073 19901213
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
IC ICM B01J020-22
ICS B01D053-04; B01D053-34
AB PURPOSE: To obtain a **deodorizing** filter capable of efficiently **removing** CH<SB>3</SB>SH by bringing specified metallic element and alloy into contact with an **aqueous** acidic solution, allowing the reaction product and unreacted metal to coexist with each other, and then sulfurating the materials.
CONSTITUTION: A metallic element such as Fe, Mn and Cr and the alloy containing the elements are brought into contact with an **aqueous** solution of an acid such as ascorbic acid and citric acid, and subjected to a reaction in the atmosphere to obtain a composition, in which the reaction product coexists with the unreacted metal, is obtained, and **hydrogen sulfide** is adsorbed by the composition.
Consequently, a mixture of the **metal**, **oxide**, hydroxide, sulfide and complex is formed on the surface of the metal. The air containing the malodorous **gases** such as NH<SB>3</SB> and H<SB>2</SB>S is cleaned by the cleaning material thus obtained, and especially CH<SB>3</SB>SH is efficiently **removed.**

L66 ANSWER 36 OF 75 JAPIO (C) 2003 JPO on STN
AN 1992-122439 JAPIO
TI **DEODORANT**
IN YONEYAMA HIROKO; HIBINO MASANOBU
PA TOKYO YOGYO CO LTD
PI JP 04122439 A 19920422 Heisei
AI JP 1990-243033 (JP02243033 Heisei) 19900913
PRAI JP 1990-243033 19900913
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1992
IC ICM B01J020-20
ICS B01D053-34
AB PURPOSE: To impart chemical **deodorizing** effect due to the reaction with a metal salt by preparing a **deodorant** by supporting metal chloride on a carrier composed of a porous body consisting of active carbon and double chain structure type clay mineral.

CONSTITUTION: A porous body formed by mixing and molding active carbon having a high surface area and double chain structure type clay mineral (attapulgite, sepiolite, palygorskite) is used as a carrier and metal chloride is efficiently supported on this carrier to obtain a **deodorant.** The carrier is obtained by mixing and kneading **activated carbon** with double chain structure type clay mineral so as to adjust the ratio of act carbon to 40-70wt.% and molding and sintering the kneaded mixture, and subsequently immersed in an **aqueous** solution of a metal salt. A **deodorant** having metal chloride of Cu and Fe supported thereon is especially excellent in **deodorizing** effect. The obtained **deodorant** develops excellent **deodorizing** effect by the adsorption of a low concentration composite component such as a hydrophobic neutral substance due to active carbon and the reaction with various acidic or basic malodorous **gas** such as **hydrogen sulfide**, mercaptan or ammonia by the action of the metal salt.

L66 ANSWER 37 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 920592303 JICST-EPlus
TI Special issue : a case of offensive **odor** countermeasure by treatment method.Actual example of offensive **odor** **removal** utilizing biofilm adsorbent.
AU HASEGAWA SUSUMU
CS Shinkopantekku
SO PPM, (1992) vol. 23, no. 8, pp. 30-34. Journal Code: F0926A (Fig. 4, Tbl. 4, Ref. 7)
ISSN: 0285-5429
CY Japan
DT Journal; Commentary
LA Japanese
STA New
CC SC04020W; SB04010I (628.511; 614.718)
CT **odor** control; **deodorization**; **deodorizing** equipment; microbial degradation; biofilm; sand basin; **odor** material; **hydrogen sulfide**(chalcogenide); adsorbent; **activated carbon** treatment; exhaust **gas** treatment; aliphatic compound; thiol; sulfide(organic)
BT environmental pollution control; countermeasure; preclusion(protection); **removal**; separator(equipment); equipment; biodegradation; decomposition; microbiological reaction; reaction; membrane and film; **water** treatment plant; facility and building; pollutant; matter; **smell** substance; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; treatment; waste treatment; organosulphur compound

L66 ANSWER 38 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 920679374 JICST-EPlus
TI **Deodorization** of Malodorous **Gas** from Municipal Wastewater Treatment Plant by Using Immobilized Microbes.
AU FUJIE KOICHI; URANO KOHEI
SHIBAYAMA MASAKAZU

TATSUKAWA KAZUMI
CS Yokohama National Univ., Faculty of Engineering
Japan Sewage Works Agency
NGK Insulators, Ltd.
SO Gesuido Kyokaishi Ronbunshu, (1992) no. 6, pp. 21-30. Journal Code: L1427A
(Fig. 21, Tbl. 2, Ref. 7)
ISSN: 0917-8252
CY Japan
DT Journal; Article
LA Japanese
STA New
AB A new bioreactor system for **deodorization** by using immobilized living microbes was successfully applied to treat the malodorous **gases** discharged from the municipal wastewater treatment plant. Two pilot scale experimental apparatuses were located for the treatment of the malodorous **gases** from the wastewater treatment process and for that from sludge treatment process. Polyvinylalchol gel particles coated with powdered **activated carbon** were used for the microbial immobilization, i.e. activated sludge in the present research. The main part of the experimental apparatus was made of transparent polyvinylchloride column of 4m in height and 0.5m in inside diameter. The **gas** feed rate to apparatus was increased up to SV(space velocity)=958h-1 in the wastewater treatment process, and SV=408h-1 in the sludge treatment process, respectively. The fractional **removals** of **hydrogen-sulfide** were 0.99-0.9997 in the wastewater treatment process and 0.95-0.999 in the sludge treatment process, while the fractional **removals** of methanethiol (MM) and dimethylsulfide(DMS) were 0.60-0.95 and 0.50-0.70 in the former, and 0.60-0.95 and 0-0.995 in the latter, respectively. It was ascertained that pH control is required for the further **removal** of organic sulfides such as MM and DMS since the decreased pH caused by the accumulation of sulfate ion brings about a reduction in fractional **removal** of organic sulfides. The pressure drop in each experimental apparatus was not significant. (author abst.)
CC SC03020P; SB04010I (628.32; 614.718)
CT waste **water** treatment; sludge treatment; sewage treatment plant; offensive **odor**; **odor** material; **deodorization** ; immobilized cell; carrier; polyvinyl alcohol; **activated carbon**; **deodorizing** equipment; performance test; adaptability; **hydrogen sulfide**(chalcogenide); aliphatic compound; sulfide(organic); thiol
BT sewage treatment; **water** and sewage treatment; treatment; **water** treatment plant; facility and building; **smell**; pollutant; matter; **smell** substance; **removal**; cell(cytology); polymer; thermoplastic; plastic; carbon material; inorganic material; material; separator(equipment); equipment; test; property; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; organosulphur compound

L66 ANSWER 39 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:498444 CAPLUS
DN 115:98444

ED Entered STN: 06 Sep 1991
TI **Deodorization** of industrial and domestic air
IN Yoshimoto, Masafumi; Nakatsuji, Tadao; Nagano, Kazuhiko
PA Sakai Chemical Industry Co., Ltd., Sakai, Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B01D053-36
ICS B01D053-34; B01J023-34; B01J029-06
CC 59-6 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03098618	A2	19910424	JP 1989-234081	19890909
PRAI	JP 1989-234081		19890909		

AB Odorous air containing NH3, **H2S**, mercaptans and amines is treated by oxidative decomposition with O3 in the presence of a catalyst comprising (a) ≥1 alkali **metal oxides** and/or alkaline earth **metal oxides**, and MnO2, (b) activated C and MnO2, or (c) metal-substituted zeolites having the general formula $M1_{\alpha/n}H_{\beta}M2[x-(\alpha/n)-\beta][AlO_2)_x.(SiO_2)].mH_2O$, in which M1 is ≥1 of Cr, Fe, Mn, Co, Ru, Cu, Rh, Pd, Ag, Pt or their oxides having an entropy of formation of ≤100 kcal/g-O; M2 is Na or K; m is the number of crystal **waters** in the unit lattice; n is the atomic valence of M1; α is the atomic number of M1; β is the atomic number of H; x is the mol. number of AlO2; y is the mol. number of SiO2; $0<(\alpha/n)<x$, $0\leq\beta<x$. Thus, an odorous air containing 10 ppm **H2S** was treated with 20 ppm O3 in the presence of a Mn-Ag-substituted zeolite A catalyst at 2000 h-1, resulting in a **H2S** removal of >96%. The treated air contained no residual O3.

ST indoor air **deodorization** ozone catalyst; zeolite catalyst air **deodorization** ozone; manganese oxide carbon **deodorization** catalyst

IT Flue gases
Waste gases
(**deodorization** of, by oxidative decomposition with ozone, manganese-silver-substituted zeolite catalysts for)

IT Amines, uses and miscellaneous
Thiols, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from odorous air, with ozone, manganese-silver-substituted zeolite catalysts for)

IT Zeolites, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(A, catalysts, metal-substituted, for air **deodorization** by oxidative decomposition with ozone)

IT Air conditioning
(**deodorization**, in closed rooms, by oxidative decomposition with ozone, manganese-silver-substituted zeolite catalysts for)

IT **7440-44-0**, **Carbon**, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(**activated**, catalyst containing, for indoor air **deodorization** with ozone)

IT 1308-06-1, Cobalt oxide (Co3O4) 1309-37-1, Iron oxide (Fe2O3), uses and miscellaneous **1309-48-4**, **Magnesium oxide** (MgO), uses and miscellaneous 1313-13-9, Manganese dioxide (MnO2), uses and miscellaneous 1313-59-3, Sodium oxide (Na2O), uses and miscellaneous 1313-99-1, Nickel oxide (NiO), uses and miscellaneous 1317-38-0, Copper oxide (CuO), uses and miscellaneous 1344-43-0, Manganese oxide (MnO), uses and miscellaneous 12136-45-7, Potassium oxide (K2O), uses and miscellaneous 13463-67-7, Titanium oxide (TiO2), uses and miscellaneous 20667-12-3, Silver oxide (Ag2O)
RL: CAT (Catalyst use); USES (Uses)
(catalyst containing, for indoor air **deodorization** with ozone)

IT 10028-15-6, Ozone, uses and miscellaneous
RL: USES (Uses)
(in air **deodorization**, for **hydrogen sulfide** and mercaptans removal, zeolite catalysts for)

IT 74-93-1, Methylmercaptan, uses and miscellaneous 7664-41-7, Ammonia, uses and miscellaneous **7783-06-4**, **Hydrogen sulfide (H2S)**, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from odorous air, by oxidative decomposition with ozone, manganese-silver-substituted zeolite catalysts for)

IT 7439-89-6, Iron, uses and miscellaneous 7439-96-5, Manganese, uses and miscellaneous 7440-05-3, Palladium, uses and miscellaneous 7440-22-4, Silver, uses and miscellaneous 7440-47-3, Chromium, uses and miscellaneous 7440-48-4, Cobalt, uses and miscellaneous 7440-50-8, Copper, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(zeolites substituted with, catalyst containing, for indoor air **deodorization** with ozone)

IT 1335-30-4
RL: CAT (Catalyst use); USES (Uses)
(zeolites, A, catalysts, metal-substituted, for air **deodorization** by oxidative decomposition with ozone)

L66 ANSWER 40 OF 75 JAPIO (C) 2003 JPO on STN
AN 1991-106441 JAPIO
TI ADSORBENT COMPOSITION
IN TAKEUCHI TATSURO; MORI MOTOYA
PA TAKEDA CHEM IND LTD
PI JP 03106441 A 19910507 Heisei
AI JP 1989-244315 (JP01244315 Heisei) 19890919
PRAI JP 1989-244315 19890919
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1991
IC ICM B01J020-06
ICS A61L009-16
AB PURPOSE: To obtain an adsorbent adsorbing both of **hydrogen sulfide** and ammonia **gas** by mixing a metal such as Fe, Co or Ni with **oxide** of **metal** such as Zr or Sn and adjusting the pH of the resulting mixture to form a precipitate.

CONSTITUTION: As an A-group metal, Fe(II), Co(II), Ni(II) or the like are used and, as a B-group metal, Zr(IV) and Sn(IV) are used. An **aqueous** solution of an acidic salt or hydroxide of the A-group metal and an **aqueous** solution of an oxy-metal salt of the B-group metal are mixed and the pH of the resulting mixture is controlled to form a precipitate which is, in turn, dried. The adsorbent thus obtained shows high adsorbing capacity to both of acidic malodorous **gas** such as **hydrogen sulfide** and alkaline malodorous **gas** such as ammonia and has a high adsorbing speed and rapidly develops **deodorizing** effect to keep the same for a long period of time.

L66 ANSWER 41 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 910185904 JICST-EPlus
TI Analysis and identification of **odorous** compounds for reuse of treated wastewater.
AU TAKIGUCHI HIROAKI
MATSUO TOMONORI; HANAKI KEISUKE; SUZUKI NORIYUKI
CS Environment Agency, Water Quality Bureau
Univ. of Tokyo, Faculty of Engineering
SO Eisei Kogaku Kenkyu Ronbunshu (Proceedings of Environmental and Sanitary Engineering Research), (1991) vol. 27, pp. 165-173. Journal Code: G0420B (Fig. 13, Tbl. 3, Ref. 12)
ISSN: 0913-4069
CY Japan
DT Conference; Article
LA Japanese
STA New
AB The reuse system of city domestic wastewater are now coming to be rather popular in Tokyo metropolitan area. In the **water** quality aspects of reuse of treated wastewater, the remained **odor** problem is one of the most urgent ones to be solved. The purpose of the present study is to initiate the first step to identify the **odorous** substances themselves, to find the main source of production of the **odorous** substances, and to investigate the efficient methods of **removal** of the **odorous** substances. It has been reported that the principal **odorous** substances from sewage treatment plant are sulfur compounds. **Gas** chromatography with flame photometric detector(FPD), which is sensitive to sulfur compounds, was used for the chemical analyses of the **odorous** substances. Analyses of head-space **gas** showed that sulfur compounds were sharply **removed** through an aeration tank and sludge treatment processes were related to production of **odorous** substances. Using a purge & trap concentration method, sulfur compounds such as methyl mercaptan, dimethyl sulfide, and dimethyl disulfide are isolated and identified from the final effluent of the conventional activated sludge process. For the **removal** of the **odorous** substances, the aerated filtration of the **activated carbon** bed was found to be effective. (author abst.)
CC SC03070S; SB04010I (628.38/.39; 614.718)
CT sewage; treated sewage; reuse; offensive **odor**; **odor**

material; **odor** test; sensory test; **gas** chromatography; headspace; **hydrogen sulfide**(chalcogenide); quantitative analysis(analytical chemistry); identification; aliphatic compound; thiol; aliphatic aldehyde

BT reclaimed **water**; **water**; utilization; **smell**; pollutant; matter; **smell** substance; test; inspection; chromatography; space; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; analysis(separation); analysis; recognition; organosulphur compound; aldehyde; carbonyl compound

L66 ANSWER 42 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 910481970 JICST-EPlus
TI **Deodorization** of **odor** of sewage-treatment plant by immobilized microorganism.
AU FUJIE KOICHI
SHIBAYAMA MASAKAZU
FUJITA KATSUMI
CS Yokohama National Univ., Faculty of Engineering
Japan Sewage Works Agency
NGK Insulators, Ltd.
SO Shuki no Kenkyu (Journal of Odor Research and Engineering), (1991) vol. 22, no. 3, pp. 144-145. Journal Code: S0864A (Fig. 3)
ISSN: 0913-4883
CY Japan
DT Journal; Article
LA Japanese
STA New
CC SB04010I; SC03020P; EE05020V (614.718; 628.32; 579.26:54)
CT offensive **odor**; sewage treatment plant; **deodorization**; **activated carbon**; polyvinyl alcohol; bioreactor; **hydrogen sulfide**(chalcogenide); pH dependence; biochemical treatment of waste; exhaust **gas** treatment; biofiltration; immobilized microbe; aliphatic compound; thiol; sulfide(organic)
BT **smell**; **water** treatment plant; facility and building; **removal**; carbon material; inorganic material; material; polymer; thermoplastic; plastic; chemical reactor; chemical equipment; equipment; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; dependence; waste treatment; treatment; filtration; separation; immobilized cell; cell(cytology); microorganism; organosulphur compound

L66 ANSWER 43 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 910378548 JICST-EPlus
TI **Deodorization** of foul **gas** from sewage treatment plants by packed tower type bio **deodorizer.**
AU IWABE HIDEKI; SHINABE KAZUHIRO; OKETANI SATOSHI; KOJIMA SENSHI
CS Kubota
SO Kankyo Eisei Kogaku Kenkyu (Environmental & Sanitary Engineering Research), (1991) vol. 5, pp. 23-31. Journal Code: L0092A (Fig. 8, Tbl. 8, Ref. 6)

CODEN: KAKKEQ; ISSN: 0913-7025
CY Japan
DT Journal; Article
LA Japanese
STA New
AB Packed Tower Type Bio **Deodorizer**(PTBD) is a **deodorizing** method utilizing microorganisms such as sulfur bacteria to save running cost. Packing media is very important factor for **deodorizing** performance. The following requirements of the physical characteristics of the media were found in bench-scale tests. (1) Porous ceramic media is better than synthetic resin media. (2) Interconnecting porosity of the media is most important in **water**-retenivity. PTBD in full scale plants at sewage treatment plants was investigated to confirm **deodorizing** performance. **Hydrogen sulfide** concentration was ranged from 5 to 30 ppm at influent distribution tank and was **removed** to less than 0.1ppm in PTBD. Running cost of PTBD is much lower at all seasons than chemical **deodorizing** absorber. At sludge thickening tank and sludge storage tank, **hydrogen sulfide** concentration of the foul **gas** varied violently from 50 to 500ppm. PTBD had high **deodorizing** performance to fluctuating high concentration. (author abst.)
CC SB04010I (614.718)
CT sewage treatment plant; **deodorizing** equipment; **deodorizer**(agent); **deodorization**; microorganism; packed tower; packing material; **activated carbon** treatment; carrier; plastic; ceramics; **hydrogen sulfide** (chalcogenide)
BT **water** treatment plant; facility and building; separator(equipment); equipment; **removal**; chemical equipment; object; treatment; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide

L66 ANSWER 44 OF 75 JAPIO (C) 2003 JPO on STN
AN 1990-251243 JAPIO
TI **DEODORANT, DEODORIZING** RESIN COMPOSITION AND **DEODORIZING** PRODUCT
IN HIRATA MASAYUKI; MASUDA SATOSHI; SUZUKI AKIRA; SEGAWA TSUNEHIRO
PA TORAY IND INC
TEIKOKU CHEM IND CORP LTD
PI JP 02251243 A 19901009 Heisei
AI JP 1989-70101 (JP01070101 Heisei) 19890322
PRAI JP 1989-70101 19890322
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1990
IC ICM B01J020-06
ICS A61L009-01; B01J020-08
AB PURPOSE: To obtain a **deodorant** quickly acting on a low MW malodorous component such as ammonia **gas**, having heat resistance and hard to discolor by using hydrates of **oxide** of a **metal** such as Al or **Ca** and **oxide** of a **metal** such as Zn or Ti as effective components.
CONSTITUTION: An **aqueous** solution containing a **water**-soluble compound of one or more kind of a metal component selected from

Al, Ca, Mg, Fe or the like and an **aqueous** solution containing a **water**-soluble compound of one or more kind of a metal component selected from Zn and Ti are prepared. These solutions are simultaneously mixed with an alkaline **aqueous** solution so that pH is always held to 6-11 pref., 7-9. Hereupon, a precipitate is formed and separated to be dried. The **deodorant** thus obtained has a high quick-acting property to a low MW malodorous component such as ammonia **gas** or **hydrogen sulfide gas** and is strong against heat and hard to discolor.

L66 ANSWER 45 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 900616876 JICST-EPlus
TI Compact biological **deodorization** equipment, BIOFUS.
AU YOSHIKI JUN'ICHI
CS Kurita Water Industries Ltd.
SO Shuki no Kenkyu (Journal of Odor Research and Engineering), (1990) vol. 21, no. 3, pp. 215-216. Journal Code: S0864A (Fig. 3, Tbl. 2)
ISSN: 0913-4883
CY Japan
DT Journal; Miscellaneous
LA Japanese
STA New
CC SB04010I; SC04020W (614.718; 628.511)
CT offensive **odor**; sewage treatment plant; **water** clocet wastes disposal plant; **odor** control; exhaust **gas** treatment; microbial degradation; bioreactor; soil microorganism; **activated carbon** treatment; operational control; case study; **deodorizing** equipment; performance test; **hydrogen sulfide**(chalcogenide); disulfide; aliphatic compound; thiol; sulfide(organic)
BT **smell**; **water** treatment plant; facility and building; human excreta treatment equipment; human excreta treatment plant; processing equipment; equipment; environmental pollution control; countermeasure; preclusion(protection); waste treatment; treatment; biodegradation; decomposition; microbiological reaction; reaction; chemical reactor; chemical equipment; soil organism; organism; management; research; separator(equipment); test; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; polysulfide(organic); organosulphur compound

L66 ANSWER 46 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 900478430 JICST-EPlus
TI Development of a new bioreactor system for **deodorization** using immobilized living microbes.
AU FUJIE KOICHI; TATSUZAWA HIROHISA; URANO KOHEI
KUBOTA HIROSHI
KONISHI KOZO
FUJITA KATSUMI
CS Yokohama National Univ., Faculty of Engineering
Tokyo Inst. of Technology
Denkaenjiniaringu

NGK Insulators, Ltd.

SO Shuki no Kenkyu (Journal of Odor Research and Engineering), (1990) vol. 21, no. 2, pp. 98-109. Journal Code: S0864A (Fig. 13, Tbl. 3, Ref. 16) ISSN: 0913-4883

CY Japan

DT Journal; Article

LA Japanese

STA New

AB A new bioreactor system for deodrization was developed by using immobilized living microbes. Polyvnylalchol gel coated with powdered **activated carbon** was used for the immobilization of microbes. Activated sludge taken from an aeration tank of night soil treatment plantwas used as **deodorizing** microbes successfully. Malodorous **gases** containing ammonia, trimethyl amine, **hydrogen sulfide**, methyl-mercaptan, dimethyl sulphide, and mixture of ammonia and hydrogen sulphide, respectively were treated in the bioreactor, and the **removal** rate of those malodorants were observed. The nitrogenous malodorants and the sulphide malodorants were biologically oxidezed to uitrate, sulfate, etc, respectively. Ammonia in the mixture was **removed** by the neutralization with sulfate generated from hydrogen sulphide. The **removal** rate of malodorants by the immobilized microbes per unit volume of the reactor was about 10 times those observed in the previous **deodorization** prcesses using soil and activated sludge. The pressure drop in the reactor, which is a key factor controlling cost, was considerably low. It was ascertained that bioreactor developed in the present study is remarkable for **deodorization.** (author abst.)

CC SB04010I (614.718)

CT **deodorizing** equipment; polyvinyl alcohol; gel; **activated carbon**; activated sludge; microbial degradation; immobilized cell; **water** content; ammonia; sulfide(organic); human excreta treatment; reaction rate; **hydrogen sulfide**(chalcogenide); aliphatic compound; thiol; aliphatic amine

BT separator(equipment); equipment; polymer; thermoplastic; plastic; carbon material; inorganic material; material; sludge; **water** pollutant; pollutant; matter; biodegradation; decomposition; microbiological reaction; reaction; cell(cytology); content; characteristic; hydride; hydrogen compound; nitrogen compound; nitrogen group element compound; organosulphur compound; treatment; velocity; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; amine

L66 ANSWER 47 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN

AN 1990-004614 [01] WPIX

DNC C1990-002039

TI **Deodorising** method using photocatalyst - comprising scattering cpd. to be oxidised and mixture of titanium and manganese oxide(s) by UV.

DC D22 J01 J04

PA (MATU) MATSUSHITA ELEC IND CO LTD

CYC 1

PI JP 01288322 A 19891120 (199001)* 4p
JP 07059293 B2 19950628 (199530) 4p B01D053-86

ADT JP 01288322 A JP 1988-117240 19880513; JP 07059293 B2 JP 1988-117240

KOROMA EIC1700

19880513
FDT JP 07059293 B2 Based on JP 01288322
PRAI JP 1988-117240 19880513
IC B01D053-36; B01J023-34; B01J035-02
ICM B01D053-86
ICS B01D053-36; B01J023-34; B01J035-02
AB JP 01288322 A UPAB: 19930928
In the method, a mixture of titanium and manganese oxides is scattered by UV ray in the presence of **gas** containing oxygen and the cpd. to be oxidised. Inorganic material with electrical conductivity is supported by the mixture **metal oxides.**

USE/ADVANTAGE - The **deodorising** method is used for bad odours in home or office. Sulphur cpd., nitrogen cpd., aldehyde, ketone, alcohol or fatty acid is oxidised and **deodorised.**

In an example, titania sol is immersed in alumina-silica ceramic paper (68mm dia. x 0.5mm thickness) and thermally treated at 400-700 deg.C. Then the ceramic paper is immersed in the boiled solution of manganese sulphate, hydrogen peroxide **water** and ammonia **water** and dehydrated at 250 deg.C for 3 days under the reduced pressure. Then **H2S gas** (**H2S** = 9900 ppm, balance **gas** = N2) is introduced to the 361 of chamber with the photo catalyst placed and UV ray scattered.

0/2
FS CPI
FA AB
MC CPI: D09-B; J01-E03F; N03-B; N03-E

L66 ANSWER 48 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
AN 1989:63000 CAPLUS
DN 110:63000
ED Entered STN: 17 Feb 1989
TI White **deodorants** for treatment of indoor air
IN Kurihara, Tokumitsu; Saito, Tatsuo; Harada, Hidefumi
PA Titan Kogyo K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B01J020-06
CC 59-6 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63185445	A2	19880801	JP 1987-15821	19870126
JP 03080054	B4	19911220		
PRAI JP 1987-15821		19870126		

AB **Deodorants** for treatment of indoor air containing **H2S**, NH3, or mercaptans are prepared by extruding TiO2 10-90, ZnO 10-90, and MgO and/or CaO 0.1-50 mol% with **water** at 40-60°, pelletizing and drying at 120-220°. Thus, a 5:4:1 mol ratio TiO2/ZnO/MgO mixture was extruded with **water**, pelletized, and dried at 200° for 3 h to give a white **deodorant**, which was then contacted with

an odorous air (containing **H2S** 10,000, NH3 10,000, trimethylamine 10,000, and EtSH 5000 ppm) at room temperature for 2 h. The treated air contained **H2S** 0, NH3 65, trimethylamine 10, and EtSH 0.5 ppm, vs. 2.5, 550, 0, and 0.6 ppm, resp. for a com. **deodorant** containing **activated carbon** (sp. surface area 1200 m2/g).

ST **deodorant** indoor air ammonia removal; titania magnesia zirconia white **deodorant**

IT Air conditioning
(**deodorization**, in closed rooms, white **deodorants** containing titania-magnesia-zirconia mixture for)

IT 75-08-1, Ethylmercaptan 75-50-3, Trimethylamine, uses and miscellaneous 7664-41-7, Ammonia, uses and miscellaneous **7783-06-4**, **Hydrogen sulfide** (**H2S**), uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from indoor air, white **deodorant** for)

IT **1305-78-8**, **Calcium oxide** (CaO), uses and miscellaneous **1309-48-4**, **Magnesium oxide** (MgO), uses and miscellaneous 1314-13-2, Zinc oxide (ZnO), uses and miscellaneous 13463-67-7, Titanium oxide (TiO2), uses and miscellaneous
RL: USES (Uses)
(white **deodorants** containing, for removing ammonia and **hydrogen sulfide** from indoor air)

L66 ANSWER 49 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1988:596410 CAPLUS
DN 109:196410
ED Entered STN: 25 Nov 1988
TI **Deodorants** for air
IN Motoyama, Shimesu; Umeda, Seiichi
PA Freund Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B01J020-26
CC 59-6 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63141642	A2	19880614	JP 1986-286692	19861203
	JP 07016606	B4	19950301		
PRAI	JP 1986-286692		19861203		

AB The title **deodorants** are prepared by loading a polyallylamine (average mol. weight 2000-150,000) onto porous inorg. supports containing >1 Si, Al, or **Mg oxides** or composite **oxides.** Suitable porous inorg. supports include zeolite, talc, attapulgite, or sepiolite. Thus, 10 g of sepiolite powder (average diameter 4-10 mesh) and 3 g of **aq** . 15.7 weight% polyallylamine (mol. weight 70,000) were mixed, and dried at 60° for 3 h to obtain a **deodorant** which was used to treat an odorous gas containing 50 ppm **H2S** at .apprx.20°. The **H2S** content in the treated gas was reduced to ≤0.1 ppm, compared with 15 ppm for a control using **activated**

carbon alone.
ST polyallylamine sepiolite adsorbent air conditioning; zeolite polyallylamine adsorbent **hydrogen sulfide**
IT Zeolites, uses and miscellaneous
RL: USES (Uses)
(adsorbent, polyallylamine loaded on, for air **deodorization**)
IT Air conditioning
(adsorption, for **hydrogen sulfide** and ammonia removal, polyallylamine-sepiolite-containing adsorbents for)
IT 30551-89-4, Polyallylamine
RL: OCCU (Occurrence)
(adsorbent, loaded on zeolites, for air **deodorization**)
IT 12174-11-7, Attapulgite 14807-96-6, Talc, uses and miscellaneous 63800-37-3, Sepiolite
RL: OCCU (Occurrence)
(adsorbent, loaded with polyallylamine, for air **deodorization**)
IT 1335-30-4
RL: OCCU (Occurrence)
(zeolites, adsorbent, polyallylamine loaded on, for air **deodorization**)

L66 ANSWER 50 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1988-208451 [30] WPIX
DNC C1988-092956
TI Treatment of waste **water** from developing photographic plate - by heating, **vaporising** and concentrating with e.g. iron, zinc, nickel, etc..
DC D15 G06
PA (KONS) KONISHIROKU PHOTO IND CO LTD
CYC 1
PI JP 63143992 A 19880616 (198830)* 11p
ADT JP 63143992 A JP 1986-291943 19861208
PRAI JP 1986-291943 19861208
IC C02F001-04
AB JP 63143992 A UPAB: 19930923
Waste **water** from developing photographic plate is heated, vapourised and concentrate in the presence of at least one metal or one of (1) Fe, Ba, Zn, Ni, Cu, Sn, Bi, Co, Cr, Ce, Ti, Zr, Mo or W; (2) **oxides** of **metals** in (1), or (3) salts of metals in (1).
Waste **water** treated contains thiosulphate ion and Ag ion. pH of waste **water** is kept at 3.0-11.0 during heating, **vaporising** and concentrating. Appts. for treating waste **water** comprises means for feeding waste **water** to evaporating tank, means for heating waste **water** in the tank, and means for feeding at least one of (1), (2) or (3).
ADVANTAGE - Generation of ill-**smelling** components, e.g., NH3, SO2, S, **H2S** and amines, etc. is almost prevented by keeping pH in fixed range. As concns. of ill-**smelling** components in generated **gas** are low, the components are perfectly **removed** using active carbon.
0/11

FS CPI
FA AB
MC CPI: D04-A01F; D04-A01P; D04-A03B; D04-B07; G06-E

L66 ANSWER 51 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 890216870 JICST-EPlus
TI Actual conditions of **odor** emission and its **deodorizing** plans in small scale manufacturing factories of various rubber goods.
AU FUKUYAMA JOJI; INOUE ZENSUKE
CS Osaka City Inst. of Public Health and Environmental Sciences
SO Osaka Shiritsu Kankyo Kagaku Kenkyujo Hokoku. Chosa, Kenkyu Nenpo (Annual Report of Osaka City Institute of Public Health and Environmental Sciences), (1988) no. 50(1987), pp. 1-10. Journal Code: F0957A (Fig. 9, Tbl. 5, Ref. 8)
ISSN: 0285-5801
CY Japan
DT Journal; Article
LA Japanese
STA New
AB In small factories of rubber goods, **odor** nuisance arises occasionally because of the imperfect equipments. Therefore, the business outlines, the manufacturing processes, characteristics of the **odor** emissions and the presence of **deodorizing** equipments were made clear by surveying two small factories of rubber goods and a reclaiming factory of scrap rubber in Osaka City. The **odor** survey was conducted by both organoleptic test and instrumental analysis. In the typical rubber factories, **odors** were mainly emitted from the peptizing roll and vulcanizing press. These **odors** were comparatively weak (**odor** unit: 102-103) and there could be detected no remarkable **odorants.** On the other hand, the discharged **gas** from desulfurizing cooker of scrap rubber had extremely irritant and offensive **odor.** Its value of **odor** unit was about 106, and sulfur-containing compounds and alkylaldehydes were detected in high concentration. From these results, it is thought that the exhaust **gas** from the desulfurization cooker should be perfectly collected and **deodorized** in a more suitable system, while it was desirable that the **odors** collected from other sources should be effectively diffused through chimney or purified with a simple **deodorizing** equipment.(author abst.)
CC SB04010I; GB05010D (614.718; 613.6+614.8)
CT occupational health; offensive **odor**; rubber industry; work environment; pollution monitoring; **odor** test; triangle **odor** bag method; **hydrogen sulfide** (chalcogenide); disulfide; aliphatic compound; **odor** control; exhaust; forced ventilation; **activated carbon** treatment; adsorption; **aqueous** cleaning; incineration; Osaka; thiol; sulfide(organic); aliphatic aldehyde; deoxysugar; aromatic hydrocarbon; vinyl compound
BT public health; hygiene; **smell**; manufacturing industry; industry; labor environment; environment; monitoring; test; sensory test; inspection; hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; polysulfide(organic);

organosulphur compound; environmental pollution control; countermeasure; preclusion(protection); action and behavior; ventilation(air conditioning); treatment; cleaning(washing); cleaning(purification); Kinki District; Japan; East Asia; Asia; aldehyde; carbonyl compound; carbohydrate; hydrocarbon; aromatic compound; olefin compound

L66 ANSWER 52 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1988:155803 CAPLUS
DN 108:155803
ED Entered STN: 30 Apr 1988
TI **Deodorants** containing metal phthalocyanines
IN Toyoda, Hitoshi; Hachiman, Nobuhiro; Suzuki, Takashi; Miyahara, Takeshi
PA Nisshin Flour Milling Co., Ltd., Japan; Nisshin Chemicals Co., Ltd.; Earth Clean K. K.
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61L009-01
CC 59-2 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62290462	A2	19871217	JP 1986-132820	19860610
	JP 06022548	B4	19940330		
PRAI	JP 1986-132820		19860610		

AB The **deodorants** for industrial waste gases and air comprise Co or Fe phthalocyanines (I), organic or inorg. hygroscopic materials, and a support. I are ≥2 phthalocyanine-carboxylic acids, -sulfonic acid, -carboxylamide,and/or -carboxyimide. The organic hydroscopic materials are alcs., P compds., S compds., amines or organic metal salts, and the inorg. hydroscopic materials are salts. **Deodorants** are loaded on a support, e.g., cotton, kapok, hemp, pulp, paper, wood, rayon, acetylcellulose, chitosan, chitin, wool, sawdust, leather, casein, activated C, silk, silica gel, alumina, zeolite, white clay, asbestos, aluminosilicate, MgO, nylon, polyester, polyolefin, polyacrylonitrile PVC, polystyrene, polyvinyl alc., and polycarbonate. Thus, a mixture of KOH 1.85, Na2SO4 25, and Fe phthalocyanineoctacarboxylic acid (II) 92.5 g was dissolved in 550 mL **water** at 40°, and then 25 g rayon was added to the solution and the mixture was stirred at 40° for 2 h to dye the rayon. The dyed rayon was stirred in 1 L of 0.02N HCl solution and stirred for 15 min, rinsed in **water**, filtered, and dried at 80° under reduced pressure to give dark blue rayon containing 3.01% II/g rayon. A 5 g of the dyed rayon was mixed with 10 mL MeOH containing 50 mg glycerin and then MeOH was complete evaporated and dried for 1 h at 105° to give a **deodorant** which removed Et mercaptan from air at 99.5%.

ST iron cobalt phthalocyanine air **deodorant**; industrial waste gas **deodorant**; ethyl mercaptan **deodorization** waste gas; rayon phthalocianine waste gas **deodorant**; acetaldehyde **hydrogen sulfide** removal air; ammonia trimethylamine removal air **deodorant**

IT Air conditioning
(**deodorants** for, metal phthalocyanine based)
IT Waste gases
(**deodorants** for, metal phthalocyanine-based)
IT Hygroscopic substances
(**deodorants**, containing phthalocyanine and, for air and waste gases)
IT Alcohols, uses and miscellaneous
RL: USES (Uses)
(hygroscopic materials, in **deodorants**)
IT **Deodorants**
(preparation of, containing phthalocyanine, for air and waste gases)
IT Amines, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from air, **deodorant** containing iron phthalocyanine and glycerin and rayon for)
IT Synthetic fibers
RL: OCCU (Occurrence)
(support, in air and waste gas **deodorant** containing iron phthalocyanine and glycerin)
IT Cotton
Kapok
Leather
Paper
Sawdust
Silk
Wood
Wool
Aluminosilicates, uses and miscellaneous
Asbestos
Caseins, uses and miscellaneous
Clays, uses and miscellaneous
Polyamide fibers, uses and miscellaneous
Polycarbonates, uses and miscellaneous
Polyesters, uses and miscellaneous
Silica gel, uses and miscellaneous
Acetate fibers, uses and miscellaneous
RL: OCCU (Occurrence)
(support, in air and waste gas **deodorants**)
IT Zeolites, uses and miscellaneous
RL: USES (Uses)
(supports, for air and waste gas **deodorants**)
IT Alkenes, polymers
RL: OCCU (Occurrence)
(polymers, support, in air and waste gas **deodorants**)
IT 9004-35-7
RL: OCCU (Occurrence)
(acetate fibers, support, in air and waste gas **deodorants**)
IT **7440-44-0**, biological studies
RL: BIOL (Biological study)
(activated, supports, in air and waste gas **deodorants** containing iron phthalocyanine and glycerin)

IT 1335-30-4
RL: OCCU (Occurrence)
(aluminosilicates, support, in air and waste gas **deodorants**)
IT 33308-41-7D, iron and cobalt complexes 111488-89-2D, iron and cobalt complexes 111488-91-6D, iron and cobalt complexes
RL: OCCU (Occurrence)
(**deodorants** containing, in support, preparation of)
IT 132-16-1, Iron phthalocyanine 3317-67-7, Cobalt phthalocyanine 7439-89-6D, phthalocyanine acid complexes, uses and miscellaneous 26183-22-2D, iron and cobalt complexes 58382-54-0D, iron and cobalt complexes 110368-50-8D, iron and cobalt complexes 7440-48-4D, phthalocyanine acid complexes, uses and miscellaneous
RL: OCCU (Occurrence)
(**deodorants**, containing rayon and glycerin and, for air and industrial waste gases)
IT 25618-55-7, Polyglycerol 56-81-5, uses and miscellaneous 57-55-6, uses and miscellaneous 107-21-1, uses and miscellaneous 111-46-6, uses and miscellaneous 1310-58-3, uses and miscellaneous 10043-52-4, uses and miscellaneous
RL: OCCU (Occurrence)
(hygroscopic material, in air and waste gas **deodorant**)
IT 75-07-0, uses and miscellaneous 75-08-1 75-50-3, uses and miscellaneous 7664-41-7, uses and miscellaneous **7783-06-4**, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from air, **deodorants** for, iron phthalocyanine and glycerin and rayon in)
IT 1398-61-4, Chitin
RL: OCCU (Occurrence)
(support, in air and waste gas **deodorants**)
IT 9002-86-2, Poly(vinyl chloride) 9002-89-5, Poly(vinyl alcohol) 9003-53-6, Polystyrene 9004-35-7, Acetylcellulose 25014-41-9 **1309-48-4**, uses and miscellaneous 1344-28-1, uses and miscellaneous
RL: OCCU (Occurrence)
(supports, in air and waste gas **deodorants** containing iron phthalocyanine and glycerin)
IT 1335-30-4
RL: OCCU (Occurrence)
(zeolites, supports, for air and waste gas **deodorants**)

L66 ANSWER 53 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1988:57249 CAPLUS
DN 108:57249
ED Entered STN: 20 Feb 1988
TI **Water**-containing particle compositions and their manufacture
IN Kajiwara, Hirofumi
PA Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese

IC ICM C08L101-00
ICS C08K003-00
ICA C09K003-00
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 62243648	A2	19871024	JP 1986-86731	19860415
PRAI JP 1986-86731		19860415		

AB Storage-stable title compns. with good flowability, useful as **water** carrier or gas absorbents, are prepared from **water**-insol. particles and **water**-swellable polymer particles. Thus, 20 g powdered Ca(OH)2 and 3 g Sumikagel (vinyl alc.-acrylic acid copolymer Na salt) were mixed in 16 mL H2O to give a 0.5-2 mm powder containing 41% **water**, useful as CO2 absorbent.

ST bicomponent particle flowability; absorbent particle bicomponent; hydration particle bicomponent; **water** carrier bicomponent particle

IT **Deodorants**
(bicomponent particles, containing **water**-insol. powder and **water**-swellable polymer, manufacture of, with good flowability)

IT Kieselguhr
RL: USES (Uses)
(two-component particles containing **water**-swellable polymers and, for gas absorption and **water** carrying, with good flowability, manufacture of)

IT Hydrates
RL: USES (Uses)
(two-component, containing **water**-insol. particles and **water**-swellable polymers, manufacture of, with good flowability)

IT Absorbents
(two-component, for gases, containing **water**-insol. particles and **water**-swellable polymers, manufacture of, with good flowability)

IT 124-38-9, Carbon dioxide, uses and miscellaneous 7782-44-7, uses and miscellaneous **7783-06-4**, **Hydrogen sulfide**, uses and miscellaneous
RL: USES (Uses)
(absorbent for, bicomponent particles containing **water**-insol. powder and **water**-swellable polymer, manufacture of)

IT 27599-56-0, Acrylic acid-vinyl alcohol copolymer sodium salt
RL: USES (Uses)
(bicomponent particles containing **water**-insol. powder and, for absorbent and hydration with good flowability, manufacture of)

IT 77-92-9, Citric acid, uses and miscellaneous 144-55-8, Sodium hydrogen carbonate, uses and miscellaneous 7317-67-1 7758-19-2, Sodium chlorite
RL: USES (Uses)
(bicomponent particles containing, for absorbents, with good flowability)

IT 7439-89-6, Iron, uses and miscellaneous 7647-14-5, Sodium chloride, uses and miscellaneous
RL: USES (Uses)
(bicomponent particles containing, for **water** carrier, with good flowability)

IT 7732-18-5P, **Water**, preparation
RL: PREP (Preparation)
(carrier for, bicomponent particles as, manufacture of, with good flowability)
IT 1305-62-0, uses and miscellaneous **1309-48-4**, **Magnesium oxide**, uses and miscellaneous **7440-44-0**, Carbon, uses and miscellaneous 7631-86-9, Silica, uses and miscellaneous 7778-18-9 10124-49-9, Iron sulfate
RL: USES (Uses)
(two-component particles containing **water**-swellable polymers and, for gas absorption and **water** carrying with good flowability, manufacture of)

L66 ANSWER 54 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1987-218173 [31] WPIX
DNC C1987-091808
TI **Deodorising gas** containing phosphorus cpds. - by contact with sodium hypochlorite solution containing available chlorine.
DC D22 E19 E36 J01 M28
PA (TOYJ) TOYO SODA MFG CO LTD
CYC 1
PI JP 62144734 A 19870627 (198731)* 5p
ADT JP 62144734 A JP 1985-285626 19851220
PRAI JP 1985-285626 19851220
IC B01D053-34
AB JP 62144734 A UPAB: 19930922
A **gas** contg phosphine and other phosphorus cpds is contacted with sodium hypochlorite soln adusted to pH 8 and of 0.05% or more available chlorine concentration

Pref for the second scrubbing an alkali scrubber is needed for eliminating free chlorine as decomposition of sodium hypochlorite is promoted at low pH.

USE/ADVANTAGE - Phosphor cpds contained in **gas** are generally **removed** by direct burning, catalytic oxidation or adsorption with **activated carbon.** However, these processes cannot be applied to the treatment of a large vols of **gas** containing hydrogen and **water** vapour, etc in addn to phosphor cpds. This is e.g the case of the process for mfg electrolysed metal Cr. This **deodorisation** process not only can treat a large vol of **gas** but simultaneously can eliminate S cpds such as **H2S**, mercaptans, methyl sulphide, etc.
0/1
FS CPI
FA AB; DCN
MC CPI: D09-B; E10-E03; E10-H01B; E11-Q02; E31-C; E31-F01B; E31-K07; J01-E03B; M28-A

L66 ANSWER 55 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1986-200956 [31] WPIX
DNC C1986-086520
TI Non-diluted raw sewage **deodorisation** - by biologically oxidising, nitrifying and denitrifying.

DC D15
PA (MISK) MITSUBISHI KAKOKI KAISHA
CYC 1
PI JP 61133197 A 19860620 (198631)* 4p
ADT JP 61133197 A JP 1984-252019 19841130
PRAI JP 1984-252019 19841130
IC C02F001-28; C02F003-12
AB JP 61133197 A UPAB: 19930922
Non-diluted raw sewage containing waste **water** is biologically oxidised, nitrified, and denitrified with active carbon powder. **Odorous gas** generated from raw sewage intake and storage tanks is introduced into a reactor tank to be contacted with a mixture of active **carbon** and **activated** sludge and to decompose **odorous** contents of the **gas** (NH3, **H2S**, and mercaptan) into odourless nitrogen and sulphur cpds.

NH3 is decomposed to N2 through nitration by nitration bacteria and further through denitration with BOD in the waste **water.** **H2S** and mercaptan are used as hydrogen donors in the denitration and converted to sulphur and SO4. An **odorous gas** contg.74 NH3, 6.5 **H2S**, 1.3 methylmercaptan, 2.3 methyldisulphide, and 0.005 trimethylamine (all in ppm) was introduced at 3 Nm3/min. into a reactor tank which treats 10 kl/day raw sewage; exhaust **gas** from the reactor contained trace amts. of NH3 and trimethylamine, 0.01 **H2S**, 0.002 methylmercaptan, and 0.005 methyldisulphide

0/1
FS CPI
FA AB
MC CPI: D04-A01J; D04-A01K; D04-B10

L66 ANSWER 56 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 860498100 JICST-EPlus
TI Study on method of **deodorization** by **activated carbon.**
AU MAKITA MINORU; MORIYA SUSUMU
CS Public Works Res. Inst.
SO Doboku Gijutsu Shiryo (Civil Engineering Journal), (1986) vol. 28, no. 8, pp. 427-432. Journal Code: G0921A (Fig. 12, Tbl. 6, Ref. 2)
ISSN: 0386-5886
CY Japan
DT Journal; Article
LA Japanese
STA New
CC SC03050W (628.34)
CT **deodorization**; **deodorizer**(agent); sewage treatment plant; sewage treatment; **activated carbon**; sludge treatment; sand basin; aeration equipment; **hydrogen sulfide**(chalcogenide); **gas** chromatograph; ammonia; diurnal variation; fluctuation and variation; adsorption; performance test
BT **removal**; **water** treatment plant; facility and building; **water** and sewage treatment; treatment; carbon material; inorganic material; material; equipment; hydrogen compound; sulfide(chalcogenide);

sulfur compound; oxygen group element compound; chalcogenide; analytical instrument; hydride; nitrogen compound; nitrogen group element compound; time course; variation; test

L66 ANSWER 57 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 870127690 JICST-EPlus
TI Fe (II) - ascorbic acid composite materials.
AU IKARI YOSHIMASA; YOKOYAMA SHOICHIRO
FUKUI RYOSUKE
CS Agency of Industrial Science and Technology, National Chemical Lab. for Industry
Minatosangyo
SO Nippon Sangyo Gijutsu Shinko Kyokai Gijutsu Shiryo, (1986) no. 160, pp. 125-144. Journal Code: Z0850A (Fig. 19, Tbl. 3, Ref. 13)
CY Japan
DT Journal; Article
LA Japanese
STA New
CC YB03000W (661.183)
CT adsorbent; **deodorization**; **deodorizer**(agent); hazardous **gas**; adsorption equilibrium; iron sulfate; solid acid; bentonite; solid base; **activated carbon**; granulation; complex(substance); activation; oxygen; catalytic activity; iron; cation; oxidation-reduction reaction; ammonia; **hydrogen sulfide** (chalcogenide); exhaust **gas** treatment; product development; freshness; storage stability; utilization; **gas** absorption; alcohol; lactone; **waterosoluble** vitamin
BT **removal**; **gas**; toxic substance; matter; chemical equilibrium; equilibrium; iron compound; iron group element compound; transition metal compound; sulfate(salt); sulfur oxoate; sulfur compound; oxygen group element compound; oxoate; oxygen compound; acid; clay; clastic sediment; sediment; soil; base(alkali); carbon material; inorganic material; material; modification; oxygen group element; element; second row element; activity; property; fourth row element; iron group element; transition metal; metallic element; ion; reduction(reaction); chemical reaction; oxidation; hydride; hydrogen compound; nitrogen compound; nitrogen group element compound; sulfide(chalcogenide); chalcogenide; waste treatment; treatment; development; food property; characteristic; degree; stability; absorption; dissolution; hydroxy compound; carboxylate(ester); ester; oxygen heterocyclic compound; heterocyclic compound; vitamin

L66 ANSWER 58 OF 75 JICST-EPlus COPYRIGHT 2003 JST on STN
AN 850386357 JICST-EPlus
TI Development of **hydrogen sulfide gas** sensor for **deodorization.**
AU MAEJIMA SHIGETO; TAKEYAMA TETSU; KOMINE YOSHIHARU; SATO KEN; MATSUNAGA NAOTOSHI
CS Mitsubishi Electric Corp.
SO Gesuido Kenkyu Happyokai Koenshu, (1985) vol. 22nd, pp. 444-446. Journal Code: S0315B (Fig. 6, Ref. 3)
CY Japan

DT Conference; Short Communication
LA Japanese
STA New
CC SB04010I; SC03020P; CC03060R (614.718; 628.32; 543.4/.51:614.71/.73)
CT **hydrogen sulfide**(chalcogenide); **gas** detector; air quality test; titanium oxide; niobium oxide; electric resistance; electrical applied measurement; **odor** test; in-place test; sewage treatment plant; sensor
BT hydrogen compound; sulfide(chalcogenide); sulfur compound; oxygen group element compound; chalcogenide; detector; test; analysis(separation); analysis; **metal oxide**; oxide; oxygen compound; titanium compound; 4A group element compound; transition metal compound; niobium compound; 5A group element compound; resistance; measurement; **water** treatment plant; facility and building; instrumentation element

L66 ANSWER 59 OF 75 COMPENDEX COPYRIGHT 2003 EEI on STN
AN 1985(7):84649 COMPENDEX DN 850755515; *8545307
TI CONTROL OF AIR EMISSIONS FROM KRAFT RECOVERY FURNACES BY WET SCRUBBING.
AU Prahacs, S. (Pulp & Paper Research Inst of Canada, Pointe Claire, Que, Can)
SO Environ Prog v 4 n 2 May 1985 p 94-99
CODEN: ENVPDI ISSN: 0278-4491
PY 1985
DT Journal
TC Application; General Review
LA English
AB The most important air pollution problem of the pulp and paper industry is emissions of **odoriferous** sulfur compounds and particulates from kraft pulp mills.Wet scrubbing promised the lowest cost solution, but there was no practical system available, because of the lack of an economical, high efficiency scrubbing medium.During the late sixties research of potential byproducts from spent pulping liquors the powdered **activated carbon** was produced as the primary product of the authothermic process.It occurred that one of the better scrubbing media, with potential to **remove** not only the **H2S** but also the **odoriferous** organic sulfur compounds, could be the **activated carbon** plus Na2CO3 produced in that process suspended in **water**, creataing an alkaline suspension of powdered **activated carbon.**In this paper, some of the principal chemical reactions involved in the **odor removal** process, and selected engineering and economic aspects of the process, are discussed.18 refs.
CC 451 Air Pollution; 521 Combustion & Fuels; 811 Cellulose, Paper & Wood Products; 804 Chemical Products
CT *FLUE **GASES:Odor** Control; PAPER AND PULP MILLS:Byproducts; PULP MANUFACTURE:Waste Liquor Utilization; SCRUBBERS; **CARBON:Activated**
ST KRAFT RECOVERY FURNACES; WET SCRUBBING; **ACTIVATED CARBON** MANUFACTURE; FLUE **GAS** DESULFURIZATION; PPRIC-BCRC PROCESS
ET H*S; H2S; H cp; cp; S cp; C*Na*O; Na2CO3; Na cp; C cp; O cp

L66 ANSWER 60 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1984:126324 CAPLUS
DN 100:126324
ED Entered STN: 12 May 1984
TI Regeneration of spent **deodorizing** catalyst for air from sewage and night soil treatment
PA Mitsubishi Heavy Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC B01J023-90
ICA B01D053-34
CC 59-6 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 60, 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58219942	A2	19831221	JP 1982-100748	19820614
PRAI	JP 1982-100748		19820614		

AB Spent air **deodorization** catalyst (C loaded with ≥1 of V, Cr, Mn, Fe, Co, Ni, Cu, Ag, Zn oxides) is regenerated by washing with **aqueous** NH3 (and **water** to remove SO42-), drying, and heating at 200-300° in a inert gas atmospheric Thus, pelletized cocoshell activated C (of 4-6 mesh and sp. surface area 110-1200 m2/g) loaded with Mn oxide was used for ozonization and **deodorization** of air from sewage sludge treatment for 8000 h. A 50 g portion of the spent catalyst was stirred in dilute **aqueous** NH3 of pH 10-11, and in **water** until the supernatant was at pH 7-8, dried at 110° for 2-5 h, and heated at 200-300° in a N stream at 1-10 L/min. Simulated air containing **H2S** 1 and O3 3 ppm was passed over 20 g of the spent and regenerated catalysts at 5 L/min and 20°. The **H2S** and O3 concns. were 0.2 and 0.6 ppm with the spent catalyst and ≤0.01 and ≤0.05, resp., after regeneration.

ST **deodorization** air catalyst regeneration ammonia; ozonization catalyst regeneration air **deodorization**

IT Catalysts and Catalysis
(**activated carbon-metal oxide**, for air **deodorization** by ozonization in wastewater treatment, regeneration of, ammonia in)

IT **Deodorization**
(of air, by ozonization, catalyst regeneration in, ammonia in)

IT Wastewater treatment
(ozonization, air **deodorization** in, catalyst for, regeneration of, ammonia in)

IT **7440-44-0P**, uses and miscellaneous
RL: PREP (Preparation); USES (Uses)
(activated, catalyst containing manganese oxide and, for air **deodorization** in treatment of wastewater, regeneration of, ammonia in)

IT 11129-60-5
RL: OCCU (Occurrence)

(catalyst containing **activated carbon** and, for air **deodorization** in treatment of wastewater, regeneration of, ammonia in)

IT 7664-41-7, uses and miscellaneous
RL: USES (Uses)
(**deodorization** catalyst regeneration by, in wastewater treatment)

IT **7783-06-4**, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from air, catalyst for, regeneration of, ammonia in, wastewater treatment in relation to)

L66 ANSWER 61 OF 75 JAPIO (C) 2003 JPO on STN
AN 1983-131121 JAPIO
TI **DEODORIZING** METHOD
IN ITO HAJIME; YOSHIDA TERUHISA
PA HITACHI KIDEN KOGYO LTD
PI JP 58131121 A 19830804 Showa
AI JP 1982-14057 (JP57014057 Showa) 19820130
PRAI JP 1982-14057 19820130
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1983
IC ICM B01D053-34
AB PURPOSE: To obtain sufficient **deodorizing** effect as a whole, by **deodorizing** a **gas** to be treated containing malodorous components by matured compost and **activated carbon** or hypochlorite soda and matured compost in two stags.
CONSTITUTION: A **gas** 1 to be treated is introduced into a humidifier 3 through a blower 2 to be conditioned so as to impart predetermined **water** content to matured compost in a **deodorizing** tank 4 in the next stage and the conditioned **gas** 1 to be treated is introduced into a **deodorizing** tank 3. Most of ammonia, **hydrogen sulfide** and mercaptan and a part of methyl sulfide and methyl disulfide in the **gas** 1 to be treated are **removed** by the aged compost. In the next step, the partially treated **gas** 1 is introduced into an **activated carbon** tank 5 to **remove** residual malodorous components. In other method, a **gas** 11 to be treated is introduced into an oxidative washing tower 13 by a blower 12 to be subjected to **deodorizing** treatment by scattering a sodium hypochlorite solution from the top of the tower 13 through a pump 14, and the partially treated **gas** is subsequently passed through a matured compost layer 18 through a diffusion pipe 17 to be **deodorized.**

L66 ANSWER 62 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1982-24856E [13] WPIX
TI Dry **deodorisation** appts. - comprises e.g. alkali metal on carrier, ozoniser, hydrogen bromide on carrier, oxidising agent and appts. for passing **gas** through system.
DC D22 J01
PA (MITQ) MITSUBISHI ELECTRIC CORP

CYC 1
PI JP 57030531 A 19820218 (198213)* 6p
JP 60034891 B 19850812 (198536)
ADT JP 57030531 A JP 1980-105793 19800731
PRAI JP 1980-105793 19800731
IC B01D053-34
AB JP 57030531 A UPAB: 19930915
Dry **deodorisation** appts. comprises (I) packed layer of carrier carrying alkali metal or alkali earth metal iodides; (II) ozoniser and appts. for mixing ozonised air from the ozoniser with air containing malodorous components passed through (I); (III) packed layer of carrier carrying hydrogen bromide or hydrobromic acid; (IV) packed layer of oxidising agent; and (V) blowing appts. for passing **gas** to be treated through, in turn, (I), (II), (III) and (IV).

The appts. makes it possible to efficiently **remove** malodorous components e.g. ammonia, methyl sulphide and dimethyl sulphide which are difficult to **remove** with **activated carbon** and has high effect on malodorous air whose **H2S** concentration is high.

In an example, malodorous air exhausted from domestic waste **water** treatment was treated with this appts. When air to be treated was first passed through KI-carrying carbon layer, then mixed with ozone, and passed through HBr-carried carbon, the residual amount of bromine of HBr-carrying carbon layer was 0.6-0.65 weight% to initial bromine 0.8wt.%; when malodorous air was passed through HBr-carrying carbon layer without passing through KI-carried carbon layer, the residual amount of bromine of HBr-carried carbon layer was 0.25-0.3 weight%.

FS CPI
FA AB
MC CPI: D09-B; J01-E02

L66 ANSWER 63 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1982-48600E [24] WPIX
TI **Deodorisation** of **gases** containing nitrogen and sulphur cpds. - by contact with active carbon carrying involatile acid, bromine, and opt- iodine (cpd.).
DC D22 E36 J01 P34
IN AIBE, T; NOGUCHI, K; TSUTSUMI, Y
PA (TAKE) TAKEDA YAKUHIN KOGYO KK
CYC 5
PI GB 2088719 A 19820616 (198224)* 9p
FR 2495498 A 19820611 (198230)
JP 57099334 A 19820621 (198230)
DE 3147851 A 19821014 (198242)
US 4427630 A 19840124 (198406)
GB 2088719 B 19840328 (198413)
JP 01042744 B 19890914 (198941)
DE 3147851 C 19891130 (198948)
ADT GB 2088719 A GB 1981-36353 19811202; JP 57099334 A JP 1980-172500 19801205; DE 3147851 A DE 1981-3147851 19811203; US 4427630 A US 1981-327736 19811204
PRAI JP 1980-172500 19801205

IC A01N059-12; A61L009-01; B01D053-34; B01J019-04; B01J020-02; C01B031-08
AB GB 2088719 A UPAB: 19930915
A **deodorising** adsorbent comprises **activated carbon** having bromine and a non-volatile acid supported on it.
The adsorbent effectively **removes** all types of S and N cpds. from waste **gas** evolved from sewage treatment, rubbish disposal and animal raising operations, including **H2S**, ammonia, amines, mercaptans, thioethers and heterocyclic cpds.
The carbon may be prepared by any known method, and pref. has surface area 200-2000 sq.m. per g. It carries 1;30, especially 3-20 weight% Br and 1-35, especially 3-30 weight% acid. The acid should have a vapour pressure at 50 deg.C no higher than 10mmHg. Suitable acids are sulphuric, phosphoric, oxalic, citric or tartaric. The carbon may be impregnated with Br by exposure to a current of **gas** containing Br2 vapour, or by spraying or immersion with an **aqueous** solution containing Br2, pref. in the form of a bromide salt e.g. NaBr or KBr. The carbon opt. also contains 0.5-15 weight% iodine, pref. present as an alkali(ne earth) metal or ammonium iodide.
FS CPI GMPI
FA AB
MC CPI: D09-B; E10-C02A; E10-C02D; E10-C02F; E31-B03; E31-F05; E31-K05; E31-N04; J01-E02B

L66 ANSWER 64 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1982:148313 CAPLUS
DN 96:148313
ED Entered STN: 12 May 1984
TI **Deodorization** of waste gases
PA Mitsubishi Heavy Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC B01D053-34; A61L009-015
CC 59-4 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 60, 67
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56130209	A2	19811013	JP 1980-32690	19800317
PRAI	JP 1980-32690		19800317		

AB Waste gases containing oxidizable odorants, NH3, and dust are **deodorized** in a process in which the NH3 and dust are removed with a sorbent bed prior to catalytic oxidation of the odorants with O3. Thus, sewage plant waste gas containing NH3 1.5, **H2S** 0.1, MeSH [74-93-1], and Me2S [75-18-3] 0.003 ppm and dust was passed through a bed of 10% H2SO4-impregnated diatomaceous earth, mixed with 3 ppm O3, and passed through a bed of MnO-impregnated activated C to give a gas containing <0.1 ppm NH3 and <0.001 ppm each of the other odorants.
ST sewage plant waste gas **deodorization**; waste gas **deodorization** sorption oxidn; ozone waste gas

deodorization; diatomaceous earth sorbent gas
deodorization; **magnesium oxide** oxidn catalyst;
activated carbon oxidn catalyst; methyl mercaptan
removal waste gas; dimethyl sulfide removal waste gas; **hydrogen sulfide** removal waste gas; ammonia removal waste gas

IT Waste gases
(**deodorization** of, by sorption and oxidation, sorbents and catalysts for)

IT Oxidation catalysts
(**magnesium oxide**-impregnated **activated carbon**, for waste gas **deodorization** with ozone)

IT Sorbents
(sulfuric acid-impregnated diatomaceous earth, for sorption of odorants prior to oxidation with ozone, in waste gas **deodorization**)

IT Kieselguhr
RL: OCCU (Occurrence)
(sulfuric acid-impregnated, sorbent, for waste gas **deodorization**)

IT Wastewater treatment
(waste gas from, **deodorization** of, by sorption and catalytic oxidation)

IT **1309-48-4**, uses and miscellaneous
RL: USES (Uses)
(**activated carbon** impregnated with, oxidation catalyst, for waste gas **deodorization** with ozone)

IT **7440-44-0**, uses and miscellaneous
RL: USES (Uses)
(activated, impregnated with **magnesium oxide**, oxidation catalyst, for waste gas **deodorization** with ozone)

IT 10028-15-6, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic oxidation by, in waste gas **deodorization**)

IT 7664-93-9, uses and miscellaneous
RL: USES (Uses)
(diatomaceous earth impregnated with **aqueous**, sorbent, for waste gas **deodorization**)

IT 74-93-1, uses and miscellaneous 75-18-3 7664-41-7, uses and miscellaneous **7783-06-4**, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from waste gas, by sorption and catalytic oxidation with ozone)

L66 ANSWER 65 OF 75 JAPIO (C) 2003 JPO on STN
AN 1981-115619 JAPIO
TI OZONE DECOLORATION AND **DEODORIZATION** METHOD
IN UMIGA NOBUYOSHI; KASHIWARA HIROSHI
PA TOSHIBA CORP
PI JP 56115619 A 19810910 Showa
AI JP 1980-18166 (JP55018166 Showa) 19800216
PRAI JP 1980-18166 19800216
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1981
IC ICM B01D053-34

ICS B01D053-34

AB PURPOSE: To cut off consumption of **activated carbon** in a posttreatment process, and to **deodorize** washed waste **water** in refining a **gas** produced from a sewage disposal plant from a reductive malodorous **gas**, by using a **gas** containing unreated ozone **gas** obtained in ozone **deodorzation** of the **water** to be treated.
CONSTITUTION: Reductive malodorous component-containing **gas** 1 is sent to main **deodorization** apparatus 3 together with unreacted ozone containing **gas** sent from piping 2. This **gas** mixture is passed through first scrubber 5, second scrubber 11, third scrubber 21 to **remove hydrogen sulfide**, methyl mercaptan, methyl sulfide, ammonia, methyl amine, or the like malodorous components in the malodorous **gas.** This **gas** is passed through **activated carbon** decomposition tower 32 and released as a harmless **odorless gas.** On the other hand, the polluted **water** to be treated is introduced into ozone reaction tower 40 to treat it by oxidation. The resultant foaming substance is introduced into defoaming tower 48 together with the unreacted ozone containing **gas.** to **remove** the foam. The unreacted ozone containing **gas** from tower 48 is passed through piping 2 and introduced into main scrubber 3.

L66 ANSWER 66 OF 75 JAPIO (C) 2003 JPO on STN
AN 1981-015827 JAPIO
TI TREATMENT OF OFFENSIVE **ODOR GAS**
IN SEKI TOSHIAKI; UMIGA NOBUYOSHI; HAYASHI HIROSHI; OGATA YOKICHI; KASHIWARA HIROSHI; OKAMOTO MASAYOSHI
PA TOSHIBA CORP
PI JP 56015827 A 19810216 Showa
AI JP 1979-91894 (JP54091894 Showa) 19790719
PRAI JP 1979-91894 19790719
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1981
IC ICM B01D053-34
AB PURPOSE: To raise the **removing** rate of **hydrogen sulfide** by adding an alkali metal carbonate to a washing liquid in the treatment method in which the offensive **odorous gas** is oxidized by ozone and then washed with an alkaline liquid containing a powdered **activated carbon.**
CONSTITUTION: The offensive **odorous gas** is oxidized by ozone and then washed with the alkaline washing liquid containing the powdered **activated carbon**, where one or more of an alkali metal salt is added, prior to the washing treatment, to the washing liquid in a proportion ranging preferably from 3g/l to its solubility. For example, a mixed **gas** of a **gas** to be treated sucked up by the air blower 3 and an ozonized air formed in the ozonizer 4 is supplied to the lower part of the washing tower 1 in which a packed layer 2 is incorporated, where sodium carbonate is added to any one of a suspension of active carbon and the alkaline liquid supplied from the tanks 17 and 11 or the supplementary **water** from the conduit 10, and a **gas**-liquid contact washing using a sprayer 5 and the

packed layer 2 is performed.
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L66 ANSWER 67 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1980-59630C [34] WPIX
TI **Removing odorous** components from **gases** - by passing through system containing wet-**activated carbon** and active oxygen.
DC D22 E36 J01 P34
PA (TAKE) TAKEDA CHEM IND LTD
CYC 1
PI JP 55091359 A 19800710 (198034)*
JP 61008692 B 19860317 (198615)
PRAI JP 1978-161564 19781229
IC A61L009-01
AB JP 55091359 A UPAB: 19930902
Removal of **odorous** components e.g. **H2S.** ercaptans, sulphides, disulphides, ketones, amines, etc. is described. The **gas** contg is passed through or introduced into a system contg active oxygen or an active oxygen-emitting cpd e.g. hypochlorous acid, potassium hypochlorite, sodium hypochlorite, hypobromous acid, potassium hypobromite, sodium hypobromite, hypoiodous acid, chloric acid, potassium chlorate, sodium chlorate, hydrogen peroxide, ozone, chlorin dioxide, etc., and a wet activated C contg >=60% **moisture** and having a specific surfaces area of 400 to 1,500 m2/g.
The pref concn of **odorous** components to be **removed** is 0.001 to 500 ppm, and the temp of the **deodorisation** system is pref 0 to 60 degrees C. The pref residence time of **gas** in the **deodorisation** system is 1/10 to 20 sec.
Method has high **removal** capacity.
FS CPI GMPI
FA AB
MC CPI: D09-B; E10-A04; E10-B04B; E10-E03; E10-F02; E10-H01; E11-Q; E31-C; E31-D; E31-E; E31-F01; E31-N04; J01-E02A; J01-E02B

L66 ANSWER 68 OF 75 JAPIO (C) 2003 JPO on STN
AN 1980-094622 JAPIO
TI **DEODORIZING** APPARATUS FOR OZONE
IN UMIGA NOBUYOSHI; SEKI TOSHIAKI
PA TOSHIBA CORP
PI JP 55094622 A 19800718 Showa
AI JP 1979-1283 (JP54001283 Showa) 19790112
PRAI JP 1979-1283 19790112
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1980
IC ICM B01D053-34
AB PURPOSE: To **deodorize** ozone without inconvenience due to use of **activated carbon** slurry as an absorbing liquid by a method wherein a carbonaceous material is employed as a filling material to an absorbing tower and a **gas** to be treated to which ozone is added is washed by a weak-alkali **water** solution.
CONSTITUTION: A **gas** to be treated with offensive **odors** is sucked by means of a blower 1 and forwarded to a lower portion of a

washing tower 3 after an ozonized **gas** formed at an ozone generator 2 is added and mixed, trimethyl amine and mercaptans are reacted with ozone at the lower portion of the tower and partially oxidized, but **hydrogen sulfide** rises in the washing tower 3 with ozone not reacted yet. A carbonaceous material 4 is housed on a holding shelf 5 in the tower 3, and **hydrogen sulfide** is absorbed to a weak-alkaline **water** solution scattered from sprays 6, subject to the catalytic action of the carbonaceous material 4 and oxidized. The pH of a liquid lowers by the oxidation, and malodorous components, such as, amine, ammonia can also be absorbed and **removed.**
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L66 ANSWER 69 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1979-34162B [18] WPIX
TI Ozone-oxidation **deodorising** appts. - in which **gas** to be treated is first admixed with air of specified relative humidity.
DC D15 J01 P34
PA (TOKE) TOKYO SHIBAURA ELECTRIC CO
CYC 1
PI JP 54038266 A 19790322 (197918)*
PRAI JP 1977-104185 19770901
IC A61L009-00; B01D053-03
AB JP 54038266 A UPAB: 19930901
In the **deodorising** of malodorous **gas**, e.g. **H2S** , the **gas** is reacted with O3 generated from an ozoniser in an **activated carbon**-packed reactor, **gas** to be treated is mixed, prior to **deodorising** treatment, with the air of relative humidity 30-60% or 0.5-2 x smaller than the relative humidity of the **gas** to be treated, controlled by means of a drier, refrigeration, or dehumidifier.
Process gives prolonged efficient **deodorisation** since lowering of catalytic activity of **activated carbon** due to the deposition of **moisture** on its surface is prevented. Air pollution is reduced. Process is partic. suitable for treating **gases** from sewage treatment.
FS CPI GMPI
FA AB
MC CPI: D09-B; J01-E02

L66 ANSWER 70 OF 75 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:64765 CAPLUS
DN 84:64765
ED Entered STN: 12 May 1984
TI Air filters containing **activated carbon** and metal catalysts
IN Imanaka, Yoshihiko; Yoshida, Norio
PA Teijin Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
NCL 13(9)G11; 13(7)A11; 13(9)F2

CC 59-2 (Air Pollution and Industrial Hygiene)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49131988	A2	19741218	JP 1973-27626	19730310
PRAI	JP 1973-27626		19730310		

AB Air pollutants and **odor**-causing compds. are **removed** by a polyurethane foam containing 10-50% **activated carbon** [**7440-44-0**] and a 1-10% transition **metal** or its **oxide.** The **activated carbon** absorbs the pollutants and odor-causing compds., while the metal catalysts decompose these compds. by oxidation; the **activated carbon** and the catalysts have a synergistic effect. Thus, V2O5 [1314-62-1] 6, CoO [1307-96-6] 5, asbestos 50, **water** 30, and 100-200 mesh **activated carbon** 50 parts were mixed and dried. The product was added to a mixture of polyol TG-3000 [51938-80-8] 100, a silicone oil 2, tin caprylate [4288-15-7] 2, H2O 3.5, and triethylenediamine [280-57-9] 0.1 parts. Diflon S-1 [24936-68-3] 10 and TDI [26471-62-5] 45 parts added to the mixture produced foams that were used as air filters. When a gas containing NH3 [7664-41-7] 300, **H2S** [**7783-06-4**] 60, and CO [630-08-0] 80 ppm was passed through a filter prepared above, the NH3, **H2S**, and CO concns. decreased to 40, 7, and 13 ppm, resp.

ST air filter **activated carbon** catalyst; pollutant air filter

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(air filter from composition containing)

IT Filters and Filtration apparatus
(air, polyurethane foam containing **activated carbon** and transition **metal oxide** catalysts for)

IT Asbestos
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **deodorization** of air)

IT Air conditioning
(**deodorization**, by filters of polyurethane foam containing **activated carbon** and transition **metal oxide** catalysts)

IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(foams, containing **activated carbon** and transition metal catalysts for air filters)

IT **Deodorization**
(of air, polyurethane foam containing **activated carbon** and transition **metal oxide** catalysts for)

IT Catalysts and Catalysis
(transition **metal oxides**, air filters from composition containing)

IT **7440-44-0**, uses and miscellaneous
RL: USES (Uses)
(activated, air filter from composition containing)

IT 280-57-9 4288-15-7 25791-96-2

RL: OCCU (Occurrence)
(air filter from composition containing)
IT 1307-96-6, uses and miscellaneous 1314-62-1, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **deodorization** of air)
IT 24936-68-3 26471-62-5
RL: OCCU (Occurrence)
(foaming agent, for air filters)
IT 630-08-0, uses and miscellaneous 7664-41-7, uses and miscellaneous
7783-06-4, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from air, by filters containing polyurethane foam and catalysts)

L66 ANSWER 71 OF 75 WPIX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1975-03554W [02] WPIX
TI Impregnated non-woven textile filter - prepared by mixing **deodorant** with polyvinyl alcohol and adding glyoxal.
DC A88 D22 F04 J01 P73
PA (NIKS) NIPPON KASEI KK
CYC 2
PI US 3857732 A 19741231 (197502)* 67p
JP 51016908 B 19760528 (197626)
US 29410 E 19770920 (197739)
PRAI JP 1970-44204 19700523
IC B01D039-14; B32B027-12; C09D003-76
AB US 3857732 A UPAB: 19930831
Polyvinyl alcohol is dissolved in **water** and a substance is added to it which is either an amphoteric ion exchange resin, **activated carbon** or coconut shell, to give a pasty mass. Glyoxal is added to the paste to acetalize the polyvinyl alcohol and a small amount of acid is also added to aid acetal formation. The resulting compsn. is impregnated into a conventional non-woven textile fabric **gas** filter which is then heated at 70-100 degrees C for 30 mins. to 2 hrs. to convert the polyvinyl alcohol to polyvinyl acetal. The resulting filter **removes** particles of sudt from air passing through it and also acts as a **deodorant removing gases** such as ammonia, volatile fatty acids, amines, **H2S**, mercaptans, etc.
FS CPI GMPI
FA AB
MC CPI: A10-E02; A12-H04; A12-M; D09-B; F02-C01; F03-E01; F04-E05; J01-E; J01-G03

L66 ANSWER 72 OF 75 JAPIO (C) 2003 JPO on STN
AN 2002-282647 JAPIO
TI **DEODORANT** AND **DEODORIZING** METHOD
IN TEJIMA HIROSHI; ITO KENZO
PA SHISEIDO CO LTD
PI JP 2002282647 A 20021002 Heisei
AI JP 2001-96404 (JP2001096404 Heisei) 20010329
PRAI JP 2001-96404 20010329
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002

IC ICM B01D053-52
ICS B01D053-58; A61L009-01; B01D053-48; C02F001-00; C02F011-00
AB PROBLEM TO BE SOLVED: To provide a method for rapidly eliminating a malodor, which is generated from activated sludge, excess sludge, digested sludge, flocculated sludge or the like generated in wastewater or generated at the time of treatment of wastewater, washing **water** of a washing device or a mixture of them, by a small amount of a chemical liquid fed into an exhaust duct, and developing lasting effect. SOLUTION: The **deodorizing** method is characterized by a liquid **deodorizing** process for **deodorizing** exhaust **gas**, which contains an offensive **smell** containing at least one of **hydrogen sulfide**, mercaptans or the like, by a cationic compound represented by a quaternary ammonium salt type compound or a guanidine compound and **aqueous** hydrogen peroxide. The treated exhaust is further treated with **activated carbon** or impregnated charcoal.

L66 ANSWER 73 OF 75 JAPIO (C) 2003 JPO on STN
AN 2002-172154 JAPIO
TI **DEODORANT** AND **DEODORIZING** METHOD
IN TEJIMA HIROSHI; ITO KENZO
PA SHISEIDO CO LTD
PI JP 2002172154 A 20020618 Heisei
AI JP 2000-373126 (JP2000373126 Heisei) 20001207
PRAI JP 2000-373126 20001207
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002
IC ICM A61L009-01
ICS A61L009-16; C02F001-00; C02F011-00
AB PROBLEM TO BE SOLVED: To provide a method capable of rapidly **removing** the **odors** generated from the activated sludge, excess sludge, digested sludge, flocculated sludge, or the like, in waste **water** or generated in treating the waste **water** or the cleaning **water** of a cleaning equipment or the mixture composed thereof with a smaller amount of chemicals in an exhaust duct and sustaining the effect by a solidified **deodorant.** SOLUTION: The method for **deodorizing** waste **gases** containing at lease one kind among **hydrogen sulfide** and mercaptans includes a process step of neutralizing the waste **gas** with a neutralizer and a process step of treating the **gas** with a guanidine base composed and/or quaternary ammonium compound. Further, the **deodorizing** method includes a process step of treating the **gas** with a powder **deodorant**, such as **activated carbon** or added and stuck **activated carbon.** The **deodorant** consists of the neutralizer, the guanidine base compound and/or the quaternary ammonium compound.

L66 ANSWER 74 OF 75 JAPIO (C) 2003 JPO on STN
AN 2000-153129 JAPIO
TI HONEYCOMB **DEODORIZATION**

IN MORI MOTOYA; AIBE NORIO; TACHIKAWA KAZUMI
PA TAKEDA CHEM IND LTD
NGK INSULATORS LTD
PI JP 2000153129 A 20000606 Heisei
AI JP 1998-329617 (JP10329617 Heisei) 19981119
PRAI JP 1998-329617 19981119
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000
IC ICM B01D053-38
ICS B01D053-75; B01D053-04; B01D053-34
AB PROBLEM TO BE SOLVED: To **deodorize gas** to be treated containing a sulfur-containing malodorous component and a nitrogen-containing malodorous component smoothly over a long period of time.
SOLUTION: Malodorous **gas** containing a sulfur-containing malodorous component such as **hydrogen sulfide** or mercaptans and a nitrogen-containing malodorous component such as ammonia or amines is brought into contact with a honeycomb-shaped **activated carbon**, and an **aqueous** medium (**water** or hot **water**) is intermittently or continuously brought into contact with the honeycomb-shaped **activated carbon** to **deodorize** this **activated carbon.** If the **aqueous** medium is intermittently or continuously brought into contact with the honeycomb-shaped **activated carbon**, the honeycomb-shaped **activated carbon** can be stably **deodorized** over a long period of time without clogging the honeycomb-shaped **activated carbon** bed with inorg. salts.
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L66 ANSWER 75 OF 75 JAPIO (C) 2003 JPO on STN
AN 2000-033230 JAPIO
TI BIO-**DEODORIZATION** APPARATUS
IN CHIGUSA TAKEMICHI; TAKAHASHI HIDEKI; SHIMADA MASATOSHI
PA UNITIKA LTD
PI JP 2000033230 A 20000202 Heisei
AI JP 1998-206263 (JP10206263 Heisei) 19980722
PRAI JP 1998-206263 19980722
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000
IC ICM B01D053-38
ICS B01D053-81; B01D053-86; B01J020-20
AB PROBLEM TO BE SOLVED: To provide a compact bio-**deodorization** apparatus of low running costs which can **remove odorous** substances including sulfur-type **odorous gases** such as **hydrogen sulfide** and methyl mercaptan generated from sewage treatment, or the like as well as ammonia and organic acids by using bio- **deodorization** effects of microorganisms and a wet oxidation catalyst mechanism of fibrous **activated carbon** together.
SOLUTION: In a **deodorization** apparatus for **removing odorous** substances containing sulfur-type **odors**, fibrous **activated carbon** or a molding containing fibrous **activated carbon** is packed in the after-stage of a bio-

deodorization column 1 filled with a carrier on which microorganisms which decompose the **odorous** substances are fixed, and a reaction column 4 in which the **water** content of the molding is kept at least 30 weight% of the weight of the fibrous **activated carbon** is installed.

=>